

## Granny Storm Crow's List – July 2013- part 3

### The Synthetic Cannabinoids

ABNORMAL CANNABIDIOL- see CBD-ABN

ACEA/ ARACHIDONYL-2'-CHLOROETHYLAMIDE - CB1 agonist

Synthesis and characterization of potent and selective agonists of the neuronal cannabinoid receptor (CB1). (full – 1999) <http://jpet.aspetjournals.org/content/289/3/1427.long>

The cannabinoids R(-)-7-hydroxy-delta-6-tetra-hydrocannabinol-dimethylheptyl (HU-210), 2-O-arachidonoylglycerylether (HU-310) and arachidonyl-2-chloroethylamide (ACEA) increase isoflurane provoked sleep duration by activation of cannabinoid 1 (CB1)-receptors in mice. (abst – 2002) <http://www.ncbi.nlm.nih.gov/pubmed/12095655>

In vivo effects of CB1 receptor ligands on lipid peroxidation and antioxidant defense systems in the rat brain of healthy and ethanol-treated rats. (full – 2006) [http://www.if-pan.krakow.pl/pjp/pdf/2006/6\\_876.pdf](http://www.if-pan.krakow.pl/pjp/pdf/2006/6_876.pdf)

Differential effect of cannabinoid agonists and endocannabinoids on histamine release from distinct regions of the rat brain. (full – 2006) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1769340/?tool=pubmed>

Arachidonyl-2'-chloroethylamide, a highly selective cannabinoid CB1 receptor agonist, enhances the anticonvulsant action of valproate in the mouse maximal electroshock-induced seizure model. (abst – 2006) <http://www.ncbi.nlm.nih.gov/pubmed/16930590>

Opposing control of cannabinoid receptor stimulation on amyloid-beta-induced reactive gliosis: in vitro and in vivo evidence. (full - 2007) <http://jpet.aspetjournals.org/content/322/3/1144.long>

Ultra-low dose cannabinoid antagonist AM251 enhances cannabinoid anticonvulsant effects in the pentylenetetrazole-induced seizure in mice. (abst – 2007) <http://www.ncbi.nlm.nih.gov/pubmed/17870135>

Attenuation of Experimental Autoimmune Hepatitis by Exogenous and Endogenous Cannabinoids: Involvement of Regulatory T Cells (full - 2008) <http://molpharm.aspetjournals.org/content/74/1/20.full?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=320&resourcetype=HWCIT#content-block>

Cannabinoid modulation of cutaneous Adelta nociceptors during inflammation. (full – 2008) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2585399/?tool=pubmed>

Cannabinoid-mediated antinociception is enhanced in rat osteoarthritic knees.

(full – 2008) <http://onlinelibrary.wiley.com/doi/10.1002/art.23156/full>

Cannabinoid receptor activation induces apoptosis through tumor necrosis factor alpha-mediated ceramide de novo synthesis in colon cancer cells. (full – 2008)  
<http://clincancerres.aacrjournals.org/content/14/23/7691.long>

Additive Interaction of the Cannabinoid Receptor I Agonist Arachidonyl-2-chloroethylamide with Etomidate in a Sedation Model in Mice (full – 2008)  
[http://journals.lww.com/anesthesiology/Fulltext/2008/04000/Additive\\_Interaction\\_of\\_the\\_Cannabinoid\\_Receptor\\_I.19.aspx](http://journals.lww.com/anesthesiology/Fulltext/2008/04000/Additive_Interaction_of_the_Cannabinoid_Receptor_I.19.aspx)

Peripheral cannabinoid CB1 receptors inhibit evoked responses of nociceptive neurones in vivo (abst – 2008) <http://www.sciencedirect.com/science/article/pii/S0014299908002719>

Endogenous cannabinoids induce fever through the activation of CB1 receptors. (full – 2009) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2765314/?tool=pubmed>

The effects of intracerebroventricular AM-251, a CB1-receptor antagonist, and ACEA, a CB1-receptor agonist, on penicillin-induced epileptiform activity in rats. (full – 2009)  
<http://onlinelibrary.wiley.com/doi/10.1111/j.1528-1167.2009.02098.x/full>

Involvement of nitrenergic system in the anticonvulsant effect of the cannabinoid CB(1) agonist ACEA in the pentylenetetrazole-induced seizure in mice. (abst – 2009)  
<http://www.ncbi.nlm.nih.gov/pubmed/19223154>

Involvement of nitric oxide in the gastroprotective effect of ACEA, a selective cannabinoid CB1 receptor agonist, on aspirin-induced gastric ulceration. (abst – 2009)  
<http://www.ncbi.nlm.nih.gov/pubmed/19827302>

Effect of arachidonyl-2'-chloroethylamide, a selective cannabinoid CB1 receptor agonist, on the protective action of the various antiepileptic drugs in the mouse maximal electroshock-induced seizure model. (abst – 2009)  
<http://www.ncbi.nlm.nih.gov/pubmed/19751793>

Role of cannabinoid CB1 receptors on macronutrient selection and satiety in rats. (abst – 2009) <http://www.ncbi.nlm.nih.gov/pubmed/19150453>

Regulatory Role of Cannabinoid Receptor 1 in Stress-Induced Excitotoxicity and Neuroinflammation (full - 2010)  
<http://www.nature.com/npp/journal/vaop/ncurrent/full/npp2010214a.html>

Alkamides and a neolignan from Echinacea purpurea roots and the interaction of alkamides with G-protein-coupled cannabinoid receptors. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21764086>

The Effect of Hypoxia on G Protein Coupled (CB1) Receptor Gene Expression in Cortical B50 Neurons in Culture (abst – 2011)  
<http://www.maxwellsci.com/jp/abstract.php?jid=BJPT&no=92&abs=05>

Inhibition of basal and ultraviolet B-induced melanogenesis by cannabinoid CB(1) receptors: a keratinocyte-dependent effect. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21298280>

L-Type Calcium Channel Mediates Anticonvulsant Effect of Cannabinoids in Acute and Chronic Murine Models of Seizure. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21928146>

Changes in the cannabinoid (CB1) receptor expression level and G-protein activation in kainic acid induced seizures. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/22079489>

Contrasting effects of different cannabinoid receptor ligands on mouse ingestive behavior (abst – 2012)  
[http://www.unboundmedicine.com/medline/ebm/record/22772336/abstract/Contrasting\\_effects\\_of\\_different\\_cannabinoid\\_receptor\\_ligands\\_on\\_mouse\\_ingestive\\_behaviour](http://www.unboundmedicine.com/medline/ebm/record/22772336/abstract/Contrasting_effects_of_different_cannabinoid_receptor_ligands_on_mouse_ingestive_behaviour)

CB1 Agonist ACEA Protects Neurons and Reduces the Cognitive Impairment of A $\beta$ PP/PS1 Mice. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22451318>

Protective effect of cannabinoid CB1 receptor activation against altered intrinsic repetitive firing properties induced by A $\beta$  neurotoxicity. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22172925>

CB1 cannabinoid receptor activation rescues amyloid  $\beta$ -induced alterations in behaviour and intrinsic electrophysiological properties of rat hippocampal CA1 pyramidal neurones. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22508047>

Opposing Roles for Cannabinoid Receptor Type-1 (CB(1)) and Transient Receptor Potential Vanilloid Type-1 Channel (TRPV1) on the Modulation of Panic-Like Responses in Rats. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/21937980>

Contrasting protective effects of cannabinoids against oxidative stress and amyloid- $\beta$  evoked neurotoxicity in vitro. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22233683>

Cannabinoids and muscular pain. Effectiveness of the local administration in rat. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22354705>

Revisiting CB1 Receptor as Drug Target in Human Melanoma. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22447182>

Photoperiodic Changes in Endocannabinoid Levels and Energetic Responses to Altered Signalling at CB1 Receptors in Siberian Hamsters (abst – 2012)  
<http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2826.2012.02312.x/abstract>

Effect of ACEA-a selective cannabinoid CB1 receptor agonist on the protective action of different antiepileptic drugs in the mouse pentylenetetrazole-induced seizure model. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22789660>

Evaluation of Anti-invasion Effect of Cannabinoids on Human Hepatocarcinoma Cells.  
(abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22978792>

Distribution and function of the endocannabinoid system in the rat and human bladder.  
(abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/23081739>

Chronic activation of cannabinoid receptors in vitro does not compromise mouse islet function. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/23078523>

Revisiting CB1 receptor as drug target in human melanoma. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22447182>

Study: Cannabis Agonists Produce Anti-Cancer Effects In Human Liver Cancer Cells  
(news – 2012) <http://norml.org/news/2012/10/11/study-cannabis-agonists-produce-anti-cancer-effects-in-human-liver-cancer-cells>

Anti-Cancer Effects In Human Liver Cancer Cells Produced By Cannabis Agonists  
(news – 2012) <http://www.imarijuana.com/tag/cannabinoid-agonists>

Type-1 (CB(1)) Cannabinoid Receptor Promotes Neuronal Differentiation and Maturation of Neural Stem Cells. (full – 2013)  
<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0054271>

Evaluation of anti-invasion effect of cannabinoids on human hepatocarcinoma cells.  
(abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/22978792>

Role of cannabinoid and vanilloid receptors in invasion of human breast carcinoma cells  
(abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23394450>

Characterisation of cannabinoid-induced relief of neuropathic pain in a rat model of cisplatin-induced neuropathy. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23454533>

Cannabinoid receptor 1 controls human mucosal-type mast cell degranulation and maturation in situ. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23453134>

The Role of CB1-Receptors in the Proconvulsant Effect of Leptin on Penicillin-Induced Epileptiform Activity in Rats. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23521910>

Cannabinoids increase type 1 cannabinoid receptor expression in a cell culture model of striatal neurons: implications for Huntington's disease. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23602984>

A novel control of human keratin expression: cannabinoid receptor 1-mediated signaling down-regulates the expression of keratins K6 and K16 in human keratinocytes in vitro and in situ. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23638377>

The role of  $\alpha$ 2-adrenoceptors in the anti-convulsant effects of cannabinoids on pentylenetetrazole-induced seizure threshold in mice. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23756131>

CB1 Cannabinoid Receptor Agonist Prevents NGF-Induced Sensitization of TRPV1 in Sensory Neurons. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23850608>

**AJULEMIC ACID/ Aja/ IP-751/ HU-239/ CT-3** - analog of  $\Delta^8$ -THC-11-oic acid

The Role of Cannabis and Cannabinoids in Pain Management (full – 2002)  
[http://www.humanhemphealth.ca/Russo-AAPM\\_chapter.pdf](http://www.humanhemphealth.ca/Russo-AAPM_chapter.pdf)

Marijuana-Derived Compound Targets Pain, Inflammation (news - 2002)  
<http://www.sciencedaily.com/releases/2002/08/020822071026.htm>

Analgesic effect of the synthetic cannabinoid CT-3 on chronic neuropathic pain: a randomized controlled trial. (full - 2003)  
<http://jama.ama-assn.org/cgi/content/full/290/13/1757?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabis&searchid=1&FIRSTINDEX=0&resourcetype=HWCIT>

Ajulemic Acid (IP-751): Synthesis, Proof of Principle, Toxicity Studies, and Clinical Trials (full - 2004) <http://www.aapsj.org/view.asp?art=aapsj070115>

Ajulemic acid: A novel cannabinoid produces analgesia without a “high” (abst - 2004)  
<http://www.ncbi.nlm.nih.gov/pubmed/15240185?dopt=Abstract>

Ajulemic acid (IP-751): Synthesis, proof of principle, toxicity studies, and clinical trials (full - 2005) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2751505/?tool=pubmed>

Marijuana-Derived Drug Suppresses Bladder Overactivity And Irritation In Animal Models (news - 2005)  
<http://www.sciencedaily.com/releases/2005/09/050906080225.htm>  
<http://www.sciencedaily.com/releases/2005/09/050906080225.htm>

Cannabimimetic Properties of Ajulemic Acid (full - 2006)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2633725/?tool=pmcentrez>

Marijuana-Derived Drug Suppresses Bladder Pain In Animal Models (news - 2006)  
<http://www.sciencedaily.com/releases/2006/05/060521103039.htm>

Cannabimimetic Properties of Ajulemic Acid (full - 2007)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2633725/>

In humans, ajulemic acid has a more favorable side-effect profile than THC for the treatment of chronic neuropathic pain (full - 2007)  
[http://www.cannabis-med.org/english/journal/en\\_2007\\_01\\_1.pdf](http://www.cannabis-med.org/english/journal/en_2007_01_1.pdf)

Letter: Preclinical assessment of abuse liability of ajulemic acid (letter - 2007)

[http://www.cannabis-med.org/english/journal/en\\_2007\\_01\\_2.pdf](http://www.cannabis-med.org/english/journal/en_2007_01_2.pdf)

Suppression of fibroblast metalloproteinases by ajulemic acid, a nonpsychoactive cannabinoid acid. (abst - 2007) <http://www.ncbi.nlm.nih.gov/pubmed/16927387>

Effects of IP-751, ajulemic acid, on bladder overactivity induced by bladder irritation in rats. (abst - 2007) <http://www.ncbi.nlm.nih.gov/pubmed/17656248>

Symptomatic treatment of multiple sclerosis using cannabinoids: recent advances. (abst - 2007) <http://www.ncbi.nlm.nih.gov/pubmed/17868014>

Cannabinoids in the management of difficult to treat pain (full - 2008)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2503660/?tool=pmcentrez>

Ajulemic acid, a nonpsychoactive cannabinoid acid, suppresses osteoclastogenesis in mononuclear precursor cells and induces apoptosis in mature osteoclast-like cells. (abst - 2008) <http://www.ncbi.nlm.nih.gov/pubmed/17786950>

Ajulemic acid, a synthetic cannabinoid acid, induces an antiinflammatory profile of eicosanoids in human synovial cells. (abst - 2008)  
<http://www.ncbi.nlm.nih.gov/pubmed/18840450>

Suppression of human macrophage interleukin-6 by a nonpsychoactive cannabinoid acid. (abst - 2008) <http://www.ncbi.nlm.nih.gov/sites/pubmed>

Cannabinoids, Endocannabinoids, and Related Analogs in Inflammation (full - 2009)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2664885/?tool=pmcentrez>

Cannabinoids as novel anti-inflammatory drugs. (full - 2009)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2828614/?tool=pubmed>

Ajulemic acid, a synthetic cannabinoid, increases formation of the endogenous proresolving and anti-inflammatory eicosanoid, lipoxin A4 (full - 2009)  
<http://www.fasebj.org/cgi/content/full/23/5/1503?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabis&searchid=1&FIRSTINDEX=2400&resourcetype=HWCIT>

Synthetic cannabinoid ajulemic acid exerts potent antifibrotic effects in experimental models of systemic sclerosis. (abst - 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22492781>

## **AM-111/ D-JNKI-1/ XG- 102**

AM-111 (news - undated) [http://www.aurismedical.com/p/therapies/am\\_111.php?lg=en](http://www.aurismedical.com/p/therapies/am_111.php?lg=en)

A peptide inhibitor of c-Jun N-terminal kinase protects against both aminoglycoside and acoustic trauma-induced auditory hair cell death and hearing loss. (full – 2003)  
<http://www.jneurosci.org/content/23/24/8596.long>

Cochlear implantation trauma and noise-induced hearing loss: Apoptosis and therapeutic strategies. (full - 2006) <http://onlinelibrary.wiley.com/doi/10.1002/ar.a.20305/pdf>

AM-111 reduces hearing loss in a guinea pig model of acute labyrinthitis. (abst – 2007)  
<http://www.ncbi.nlm.nih.gov/pubmed/18322422>

Intratympanic treatment of acute acoustic trauma with a cell-permeable JNK ligand: a prospective randomized phase I/II study (abst – 2007)  
<http://www.ncbi.nlm.nih.gov/pubmed/17712672>

AM-111 protects against permanent hearing loss from impulse noise trauma. (abst – 2007) <http://www.ncbi.nlm.nih.gov/pubmed/16839720>

AM-111 prevents hearing loss from semicircular canal injury in otitis media. (full – 2009) <http://onlinelibrary.wiley.com/doi/10.1002/lary.20759/pdf>

Blocking pro-cell-death signal pathways to conserve hearing. (abst - 2009)  
<http://www.ncbi.nlm.nih.gov/pubmed/19923808>

CONTROLLED-RELEASE APOPTOSIS MODULATING COMPOSITIONS AND METHODS FOR THE TREATMENT OF OTIC DISORDERS (full – 2010)  
<http://www.faqs.org/patents/app/20100016218>

Otoprotective Effect of AM-111 Also Shown In Model of Cochlear Ischemia (news – 2010) [http://www.biospace.com/news\\_story.aspx?StoryID=192710](http://www.biospace.com/news_story.aspx?StoryID=192710)

JNK plays a key role in tau hyperphosphorylation in Alzheimer's disease models. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21628793>

Protection against ischemic cochlear damage by intratympanic administration of AM-111. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/22089955>

The JNK inhibitor XG-102 protects against TNBS-induced colitis. (full – 2012)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3302790/>

Specific inhibition of the JNK pathway promotes locomotor recovery and neuroprotection after mouse spinal cord injury. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22426389>

Analysis: Drugmakers step up search for hearing loss medicines (news – 2012)  
<http://www.reuters.com/article/2012/12/02/us-hearing-medicines-idUSBRE8B102H20121202>

Molecular mechanisms involved in cochlear implantation trauma and the protection of hearing and auditory sensory cells by inhibition of c-Jun-N-terminal kinase signaling. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23382052>

**AM-251** – GPR 55 agonist, CB1 antagonist/ inverse agonist

Inhibition of Rat C6 Glioma Cell Proliferation by Endogenous and Synthetic Cannabinoids. Relative Involvement of Cannabinoid and Vanilloid Receptors (full - 2001) <http://jpet.aspetjournals.org/content/299/3/951.full>

Influence of the CB1 receptor antagonist, AM 251, on the regional haemodynamic effects of WIN-55212-2 or HU 210 in conscious rats (full - 2002) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1573379/?tool=pmcentrez>

CB1 cannabinoid receptor antagonism promotes remodeling and cannabinoid treatment prevents endothelial dysfunction and hypotension in rats with myocardial infarction (full - 2003) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1573770/?tool=pmcentrez>

Vasodilator actions of abnormal-cannabidiol in rat isolated small mesenteric artery (full - 2003) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1573773/?tool=pmcentrez>

Cannabinoid CB2 receptor activation reduces mouse myocardial ischemia-reperfusion injury: involvement of cytokine/chemokines and PMN (full - 2003) <http://www.jleukbio.org/cgi/content/full/75/3/453?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=320&resourcetype=HWCIT>

Inhibition of Inflammatory Hyperalgesia by Activation of Peripheral CB2 Cannabinoid Receptors (full – 2003) [http://journals.lww.com/anesthesiology/Fulltext/2003/10000/Inhibition\\_of\\_Inflammatory\\_Hyperalgesia\\_by\\_31.aspx](http://journals.lww.com/anesthesiology/Fulltext/2003/10000/Inhibition_of_Inflammatory_Hyperalgesia_by_31.aspx)

Effects of cannabinoid receptor-2 activation on accelerated gastrointestinal transit in lipopolysaccharide-treated rats (full - 2004) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1575196/?tool=pmcentrez>

Up-Regulation of Cyclooxygenase-2 Expression Is Involved in R(-)-Methanandamide-Induced Apoptotic Death of Human Neuroglioma Cells (full - 2004) <http://science.iowamedicalmarijuana.org/pdfs/cancer/Hinz%202004.pdf>

The cannabinoid 1 receptor antagonist, AM251, prolongs the survival of rats with severe acute pancreatitis. (full - 2005) [https://www.jstage.jst.go.jp/article/tjem/207/2/207\\_2\\_99/\\_pdf](https://www.jstage.jst.go.jp/article/tjem/207/2/207_2_99/_pdf)

Cannabinoids augment the release of neuropeptide Y in the rat hypothalamus (abst – 2005) <http://www.sciencedirect.com/science/article/pii/S0028390805001668>

Cannabinoid CB1 receptor antagonists cause status epilepticus-like activity in the hippocampal neuronal culture model of acquired epilepsy (full - 2006)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1808496/?tool=pmcentrez>

AM 251 produces sustained reductions in food intake and body weight that are resistant to tolerance and conditioned taste aversion (full - 2006)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1615836/?tool=pmcentrez>

Inhibition of Salivary Secretion by Activation of Cannabinoid Receptors (full - 2006)

<http://ebm.rsmjournals.com/cgi/content/full/231/8/1421?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=880&resourcetype=HWCIT>

Antinociceptive effect of cannabinoid agonist WIN 55,212-2 in rats with a spinal cord injury (full - 2006)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1861843/?tool=pmcentrez>

EFFECT OF CANNABINOIDS ON TESTICULAR ISCHEMIA-REPERFUSION INJURY IN RAT (full - 2006)

[http://journals.tums.ac.ir/upload\\_files/pdf/\\_/3279.pdf](http://journals.tums.ac.ir/upload_files/pdf/_/3279.pdf)

Cannabinoid derivatives induce cell death in pancreatic MIA PaCa-2 cells via a receptor-independent mechanism. (abst - 2006)

<http://www.ncbi.nlm.nih.gov/pubmed/16500647>

Cardiovascular effects of cannabinoids in conscious spontaneously hypertensive rats (full - 2007)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2190006/?tool=pmcentrez>

CANNABINOID-INDUCED HYPERPHAGIA: CORRELATION WITH INHIBITION OF PROOPIOMELANOCORTIN NEURONS? (full - 2007)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2720321/?tool=pmcentrez>

Cannabinoid action in the olfactory epithelium (full - 2007)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1815290/?tool=pmcentrez>

Ultra-low dose cannabinoid antagonist AM251 enhances cannabinoid anticonvulsant effects in the pentylenetetrazole-induced seizure in mice. (abst - 2007)

<http://www.ncbi.nlm.nih.gov/pubmed/17870135>

The local antinociceptive effects of paracetamol in neuropathic pain are mediated by cannabinoid receptors (abst - 2007)

<http://www.sciencedirect.com/science/article/pii/S0014299907007935>

Effect of Endocannabinoid System on the Neurogenic Function of Rat Corpus Cavernosum (abst - 2007)

<http://www.doaj.org/doi/func=abstract&id=1150200&q1=endocannabinoid%20system&f1=all&b1=and&q2=&f2=all&recNo=26&uiLanguage=en>

Cannabinoids Inhibit HIV-1 Gp120-Mediated Insults in Brain Microvascular Endothelial Cells (full - 2008)

<http://www.jimmunol.org/cgi/content/full/181/9/6406?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=160&resourcetype=HWCIT>

Attenuation of Experimental Autoimmune Hepatitis by Exogenous and Endogenous Cannabinoids: Involvement of Regulatory T Cells (full - 2008)  
<http://molpharm.aspetjournals.org/content/74/1/20.full?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=320&resourcetype=HWCIT#content-block>

Loss of cannabinoid receptor 1 accelerates intestinal tumor growth (full - 2008)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2561258/?tool=pubmed>

Acute hypertension reveals depressor and vasodilator effects of cannabinoids in conscious rats (full - 2008)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2697765/?tool=pmcentrez>

Activating Parabrachial Cannabinoid CB1 Receptors Selectively Stimulates Feeding of Palatable Foods in Rats (full - 2008)  
<http://www.jneurosci.org/cgi/content/full/28/39/9702?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=0&resourcetype=HWCIT>

Feeding induced by cannabinoids is mediated independently of the melanocortin system. (full - 2008) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2386290/?tool=pubmed>

Acute effects of endocannabinoid anandamide and CB1 receptor antagonist, AM251 in the regulation of thyrotropin secretion. (full - 2008)  
<http://joe.endocrinology-journals.org/content/199/2/235.long>

High concentrations of cannabinoids activate apoptosis in human U373MG glioma cells. (abst - 2008) <http://www.ncbi.nlm.nih.gov/pubmed/18615640>

Effect of biliary cirrhosis on nonadrenergic noncholinergic-mediated relaxation of rat corpus cavernosum: Role of nitric oxide pathway and endocannabinoid system (abst - 2008)  
<http://www.doaj.org/doaj?func=abstract&id=859538&q1=anandamide&f1=all&b1=and&q2=&f2=all&recNo=24&uiLanguage=en>

Effect of anandamide in improving of the non-adrenergic non-cholinergic relaxation of the corpus cavernosum from diabetic rats (abst - 2008)  
<http://www.doaj.org/doaj?func=abstract&id=859448&q1=anandamide&f1=all&b1=and&q2=&f2=all&recNo=25&uiLanguage=en>

Peripheral cannabinoid CB1 receptors inhibit evoked responses of nociceptive neurones in vivo (abst - 2008) <http://www.sciencedirect.com/science/article/pii/S0014299908002719>

Synthetic and plant-derived cannabinoid receptor antagonists show hypophagic properties in fasted and non-fasted mice (full - 2009)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2697695/?tool=pubmed>

Endocannabinoids in the rat basolateral amygdala enhance memory consolidation and enable glucocorticoid modulation of memory (full - 2009)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2660732/?tool=pmcentrez>

Modulation of motor and sensory pathways of the peristaltic reflex by cannabinoids. (full – 2009) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2739820/?tool=pubmed>

The effects of intracerebroventricular AM-251, a CB1-receptor antagonist, and ACEA, a CB1-receptor agonist, on penicillin-induced epileptiform activity in rats. (full – 2009) <http://onlinelibrary.wiley.com/doi/10.1111/j.1528-1167.2009.02098.x/full>

Effects of the cannabinoid CB1 receptor antagonist AM 251 on the reinstatement of nicotine-conditioned place preference by drug priming in rats. (full - 2009) [http://www.if-pan.krakow.pl/pjp/pdf/2009/2\\_304.pdf](http://www.if-pan.krakow.pl/pjp/pdf/2009/2_304.pdf)

Cannabinoids and neurodegenerative diseases. (abst - 2009) <http://www.ncbi.nlm.nih.gov/pubmed/19839933>

Endocannabinoids prevent lysosomal membrane destabilisation evoked by treatment with  $\beta$ -amyloid in cultured rat cortical neurons (forum post/abst – 2009) <http://forum.grasscity.com/medical-marijuana-usage-applications/1029121-alzheimers-study.html#post14325992>

Regulation of the Hypothalamic-Pituitary-Adrenal Axis Circadian Rhythm by Endocannabinoids Is Sexually Diergic (full - 2010) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2964781/?tool=pmcentrez>

International Union of Basic and Clinical Pharmacology. LXXIX. Cannabinoid Receptors and Their Ligands: Beyond CB1 and CB2 (full – 2010) <http://pharmrev.aspetjournals.org/content/62/4/588.full.pdf+html>

Cannabinoids excite circadian clock neurons. (full – 2010) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2927117/?tool=pubmed>

GPR55 ligands promote receptor coupling to multiple signalling pathways. (full – 2010) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2931561/?tool=pubmed>

Cannabinoid receptor CB1 mediates baseline and activity-induced survival of new neurons in adult hippocampal neurogenesis (full - 2010) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2898685/?tool=pubmed>

Spinal and peripheral analgesic effects of the CB cannabinoid receptor agonist AM1241 in two models of bone cancer-induced pain. (full - 2010) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2931557/?tool=pubmed>

The Neuroprotective Effect of Cannabinoid Receptor Agonist (WIN55,212-2) in Paraoxon Induced Neurotoxicity in PC12 Cells and N-methyl-D-aspartate Receptor Interaction (full – 2010) [http://celljournal.org/library/upload/article/af\\_4334422Hashemi.pdf](http://celljournal.org/library/upload/article/af_4334422Hashemi.pdf)

The Endocannabinoid System Tonicly Regulates Inhibitory Transmission and Depresses the Effect of Ethanol in Central Amygdala (abst - 2010) <http://www.nature.com/npp/journal/v35/n9/abs/npp201070a.html>

Anandamide and AM251, via water, modulate food intake at central and peripheral level in fish. (abst – 2010) <http://www.ncbi.nlm.nih.gov/pubmed/19800340>

The endocannabinoid system modulates the valence of the emotion associated to food ingestion (abst – 2010)  
<http://onlinelibrary.wiley.com/doi/10.1111/j.1369-1600.2010.00271.x/abstract>

Pharmacological characterization of GPR55, a putative cannabinoid receptor.  
(abst – 2010)  
[http://www.unboundmedicine.com/medline/ebm/record/20298715/abstract/Pharmacological\\_characterization\\_of\\_GPR55\\_a\\_putative\\_cannabinoid\\_receptor](http://www.unboundmedicine.com/medline/ebm/record/20298715/abstract/Pharmacological_characterization_of_GPR55_a_putative_cannabinoid_receptor)

Cannabidiol (CBD) as an Anti-Arrhythmic – the Role of the CB1 Receptors  
(news – 2010)  
<http://cannabisclinicians.org/2011/cannabidiol-cbd-as-an-anti-arrhythmic-the-role-of-the-cb1-receptors/>

AM251, cannabinoids receptors ligand, improves recognition memory in rats.  
(full – 2011) [http://www.if-pan.krakow.pl/pjp/pdf/2011/3\\_670.pdf](http://www.if-pan.krakow.pl/pjp/pdf/2011/3_670.pdf)

A Pilot Study into the Effects of the CB1 Cannabinoid Receptor Agonist WIN55,212-2 or the Antagonist/Inverse Agonist AM251 on Sleep in Rats (full – 2011)  
<http://www.hindawi.com/journals/sd/2011/178469/>

Cannabinoids prevent the development of behavioral and endocrine alterations in a rat model of intense stress. (full – 2011)  
<http://www.nature.com/npp/journal/v37/n2/full/npp2011204a.html>

$\alpha$ -Tocopherol and  $\alpha$ -tocopheryl phosphate interact with the cannabinoid system in the rodent hippocampus. (abst - 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21843633>

Cannabidiol as an anti-arrhythmic, the role of the CB1 receptors. (abst – 2011)  
[http://www.unboundmedicine.com/medline/ebm/record/22116907/abstract/17\\_Cannabidiol\\_as\\_an\\_anti\\_arrythmic\\_the\\_role\\_of\\_the\\_CB1\\_receptors](http://www.unboundmedicine.com/medline/ebm/record/22116907/abstract/17_Cannabidiol_as_an_anti_arrythmic_the_role_of_the_CB1_receptors)

CB(1) -independent mechanisms of  $\Delta(9)$  -THCV, AM251 and SR141716 (rimonabant).  
(abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21740450>

Endocannabinoid CB1 receptors modulate visual output from the thalamus.  
(abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21773721>

The effects of cannabinoid drugs on abnormal involuntary movements in dyskinetic and non-dyskinetic 6-hydroxydopamine lesioned rats. (abst – 2011)  
[http://www.unboundmedicine.com/medline/ebm/record/20888328/abstract/The\\_effects\\_of\\_cannabinoid\\_drugs\\_on\\_abnormal\\_involuntary\\_movements\\_in\\_dyskinetic\\_and\\_non\\_dyskinetic\\_6\\_hydroxydopamine\\_lesioned\\_rats](http://www.unboundmedicine.com/medline/ebm/record/20888328/abstract/The_effects_of_cannabinoid_drugs_on_abnormal_involuntary_movements_in_dyskinetic_and_non_dyskinetic_6_hydroxydopamine_lesioned_rats)

Pot and Pumpkin Pie: Endocannabinoid System Enhanced by Vitamin E (news – 2011)

<http://www.examiner.com/medical-marijuana-in-philadelphia/pot-and-pumpkin-pie-endocannabinoid-system-enhanced-by-vitamin-e>

Cannabinoid Receptor Type 1 (CB1) Activation Inhibits Small GTPase RhoA Activity and Regulates Motility of Prostate Carcinoma Cells (full – 2012)

<http://endo.endojournals.org/content/153/1/29.full>

Differences in Spontaneously Avoiding or Approaching Mice Reflect Differences in CB1-Mediated Signaling of Dorsal Striatal Transmission. (full – 2012)

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0033260>

A Role for the Cannabinoid 1 Receptor in Neuronal Differentiation of Adult Spinal Cord Progenitors in vitro is Revealed through Pharmacological Inhibition and Genetic Deletion. (full – 2012) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3265030/?tool=pubmed>

Cannabinoid HU210 Protects Isolated Rat Stomach against Impairment Caused by Serum of Rats with Experimental Acute Pancreatitis. (full - 2012)

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0052921>

The cannabinoid receptor CB1 modulates the signaling properties of the lysophosphatidylinositol receptor GPR55. (full – 2012)

<http://www.jbc.org/content/early/2012/11/16/jbc.M112.364109.long>

Diet-dependent modulation of hippocampal expression of endocannabinoid signaling-related proteins in cannabinoid antagonist-treated obese rats. (full – 2012)

<http://onlinelibrary.wiley.com/doi/10.1111/ejn.12012/full>

So what do we call GPR18 now? (full – 2012)

<http://onlinelibrary.wiley.com/doi/10.1111/j.1476-5381.2011.01731.x/full>

Neuron to Astrocyte Communication via Cannabinoid Receptors Is Necessary for Sustained Epileptiform Activity in Rat Hippocampus (full – 2012)

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0037320>

The effects of peptide and lipid endocannabinoids on arthritic pain at the spinal level. (full – 2012)

<http://www.anesthesia-analgesia.org/content/early/2012/03/26/ANE.0b013e31824c4eeb.full.pdf>

Critical role of the endocannabinoid system in mediating rapid glucocorticoid effects on memory for emotionally arousing experiences (link to PDF - 2012)

<http://www.doaj.org/doaj?func=abstract&id=1152481&q1=cannabinoid&f1=all&b1=and&q2=&f2=all&rcNo=3&uiLanguage=en>

Bidirectional regulation of endocannabinoid signaling in the amygdala contributes to activation and adaptation of the stress response (link to PDF – 2012)

<http://www.doaj.org/doaj?func=abstract&id=1152480&q1=cannabinoid&f1=all&b1=and&q2=&f2=all&rcNo=4&uiLanguage=en>

Cannabinoid type 1 receptor ligands WIN 55,212-2 and AM 251 alter anxiety-like behaviors of marmoset monkeys in an open-field test. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/23183218>

Opposing Roles for Cannabinoid Receptor Type-1 (CB(1)) and Transient Receptor Potential Vanilloid Type-1 Channel (TRPV1) on the Modulation of Panic-Like Responses in Rats. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/21937980>

The cannabinoid receptor CB<sub>1</sub> inverse agonist AM251 potentiates the anxiogenic activity of urocortin I in the basolateral amygdala. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/21736884>

Cannabinoids and muscular pain. Effectiveness of the local administration in rat. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22354705>

Endocannabinoid analogues exacerbate marble-burying behavior in mice via TRPV1 receptor. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22248639>

WIN55212-2 attenuates amyloid-beta-induced neuroinflammation in rats through activation of cannabinoid receptors and PPAR- $\gamma$  pathway. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22634229>

Revisiting CB1 Receptor as Drug Target in Human Melanoma. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22447182>

Stimulation of acumbens shell cannabinoid CB(1) receptors by noladin ether, a putative endocannabinoid, modulates food intake and dietary selection in rats. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22728691>

Mechanism of the Interaction of Cannabinoid System in Central Amygdala with Opioid System (abst – 2012) <http://journal.muq.ac.ir/en/index.php/jmuqen/article/view/29>

The interaction between intrathecal administration of low doses of palmitoylethanolamide and AM251 in formalin-induced pain related behavior and spinal cord IL1- $\beta$  expression in rats. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22201038>

Medial prefrontal cortex endocannabinoid system modulates baroreflex activity through CB1 receptors (abst – 2012)  
<http://ajpregu.physiology.org/content/302/7/R876.abstract?sid=952e2125-0502-477c-b603-30f0f3e51b55>

Nicotine-induced anxiety-like behavior in a rat model of the novelty-seeking phenotype is associated with long-lasting neuropeptidergic and neuroplastic adaptations in the amygdala: Effects of the cannabinoid receptor 1 antagonist AM251. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22959963>

Involvement of the Endocannabinoid System in Ethanol-Induced Corticostriatal Synaptic Depression. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22971846>

The anti-nausea effects of CB(1) agonists are mediated by an action at the visceral insular cortex. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22671779>

Anti-Inflammatory Effect of the Endocannabinoid Anandamide in Experimental Periodontitis and Stress in the Rat (abst – 2012)  
<http://content.karger.com/produktedb/produkte.asp?doi=339113>

Effects of gonadal hormones on the peripheral cannabinoid receptor 1 (CB1R) system under a myositis condition in rats. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22940464>

Revisiting CB1 receptor as drug target in human melanoma. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22447182>

Role of endocannabinoids and cannabinoid-1 receptors in cerebrocortical blood flow regulation. (full – 2013) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3537620/>

Activation of Type 1 Cannabinoid Receptor (CB1R) Promotes Neurogenesis in Murine Subventricular Zone Cell Cultures (full – 2013)  
<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0063529>

Electroacupuncture inhibition of hyperalgesia in rats with adjuvant arthritis: involvement of cannabinoid receptor 1 and dopamine receptor subtypes in striatum. (full – 2013)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3677619/>

Cannabinoid CB1 Receptors Mediate the Gastroprotective Effect of Neurotensin. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23492756>

CB1 and CB2 Cannabinoid Receptor Agonists Induce Peripheral Antinociception by Activation of the Endogenous Noradrenergic System. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23302980>

Endocannabinoid/GABA interactions in the entopeduncular nucleus modulates alcohol intake in rats. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23291357>

Rapid Glucocorticoid-Induced Activation of TRP and CB1 Receptors Causes Biphasic Modulation of Glutamate Release in Gastric-Related Hypothalamic Preautonomic Neurons. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23386808>

Signaling cross-talk between cannabinoid and muscarinic systems activates Rho-kinase and increases the contractile responses of the bovine ciliary muscle (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23396229>

Role of cannabinoid and vanilloid receptors in invasion of human breast carcinoma cells (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23394450>

Working memory- and anxiety-related behavioral effects of repeated nicotine as a stressor: the role of cannabinoid receptors. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23394117>

Cannabinoids ameliorate impairments induced by chronic stress to synaptic plasticity and short-term memory. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23426383>

Characterisation of cannabinoid-induced relief of neuropathic pain in a rat model of cisplatin-induced neuropathy. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23454533>

Neuroprotective effects of topical CB1 agonist WIN 55212-2 on Retinal ganglion cells after acute rise in intraocular pressure induced ischemia in rat. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23454099>

Cannabinoid receptor 1 controls human mucosal-type mast cell degranulation and maturation in situ. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23453134>

Long-term CB1 receptor blockade enhances vulnerability to anxiogenic-like effects of cannabinoids. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23462228>

Role of TRPV1 receptors on panic-like behaviors mediated by the dorsolateral periaqueductal gray in rats. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23474373>

Role of intra-accumbal cannabinoid CB1 receptors in the potentiation, acquisition and expression of morphine-induced conditioned place preference. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23523958>

The Role of CB1-Receptors in the Proconvulsant Effect of Leptin on Penicillin-Induced Epileptiform Activity in Rats. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23521910>

Involvement of prelimbic medial prefrontal cortex in panic-like elaborated defensive behaviour and innate fear-induced antinociception elicited by GABAA receptor blockade in the dorsomedial and ventromedial hypothalamic nuclei: role of the endocannabinoid CB1 receptor. (abst – 2013) <http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=8874231>

Central functional response to the novel peptide cannabinoid, hemopressin. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23542442>

Phencyclidine-induced social withdrawal results from deficient stimulation of cannabinoid CB1 receptors: implications for schizophrenia. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23563893>

Entopeduncular nucleus endocannabinoid system modulates sleep-waking cycle and mood in rats. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23584096>

A role for O-1602 and G protein-coupled receptor GPR55 in the control of colonic motility in mice. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23603203>

2-AG into the lateral hypothalamus increases REM sleep and cFos expression in melanin concentrating hormone neurons in rats. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23603032>

Behavioral effects of the novel potent cannabinoid CB1 agonist AM 4054.

(abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23603029>

Inhibitory effects of endocannabinoid on the action potential of pacemaker cells in sinoatrial nodes of rabbits. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23598867>

A novel control of human keratin expression: cannabinoid receptor 1-mediated signaling down-regulates the expression of keratins K6 and K16 in human keratinocytes in vitro and in situ. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23638377>

CB1 receptor signaling regulates social anxiety and memory.

(abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23647582>

Impact of omega-6 polyunsaturated fatty acid supplementation and  $\gamma$ -aminobutyric acid on astroglialogenesis through the endocannabinoid system. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23633391>

Endocannabinoids mediate hyposalivation induced by inflammogens in the submandibular glands and hypothalamus. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23684250>

Activation of Type 1 Cannabinoid Receptor (CB1R) Promotes Neurogenesis in Murine Subventricular Zone Cell Cultures. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23704915>

The cannabinoid  $\Delta(9)$ -tetrahydrocannabivarin (THCV) ameliorates insulin sensitivity in two mouse models of obesity. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23712280>

Effects of compounds that interfere with the endocannabinoid system on behaviors predictive of anxiolytic and panicolytic activity in the elevated T-maze (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23711591>

Modulation of anxiety-like behaviour by the endocannabinoid 2-arachidonoylglycerol (2-AG) in the dorsolateral periaqueductal gray. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23714073>

The role of  $\alpha 2$ -adrenoceptors in the anti-convulsant effects of cannabinoids on pentylenetetrazole-induced seizure threshold in mice. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23756131>

Regulation of cell proliferation by GPR55/cannabinoid receptors using (R,R')-4'-methoxy-1-naphthylfenoterol in rat C6 glioma cell line (abst – 2013)

<http://www.abstractsonline.com/Plan/ViewAbstract.aspx?sKey=695437a2-7613-4bef-8697-2294df2da859&cKey=18ba6eb0-2c5f-4004-a56f-2d1f450e2ed1&mKey=9b2d28e7-24a0-466f-a3c9-07c21f6e9bc9>

(R,R')-4'-methoxy-1-naphthylfenoterol Inhibits GPR55 signaling and the modulation of motility in human cancer cells (abst – 2013)

<http://www.abstractsonline.com/Plan/ViewAbstract.aspx?sKey=25370896-7d13-4f15-be76-f664d79b577d&cKey=87b7fec1-45cc-42b7-aca7-48c6b1d42773&mKey=9b2d28e7-24a0-466f-a3c9-07c21f6e9bc9>

CB1 Cannabinoid Receptor Agonist Prevents NGF-Induced Sensitization of TRPV1 in Sensory Neurons. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23850608>

CB1 and CB2 contribute to antinociceptive and anti-inflammatory effects of electroacupuncture on experimental arthritis of the rat temporomandibular joint. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23181276>

CB1 cannabinoid receptor expressed in enteroendocrine cells mediates food intake in mice (abst – 2013)

[http://edrv.endojournals.org/cgi/content/meeting\\_abstract/34/03\\_MeetingAbstracts/SAT-659?sid=89628f3e-b2f1-448c-b0df-984f390dff2](http://edrv.endojournals.org/cgi/content/meeting_abstract/34/03_MeetingAbstracts/SAT-659?sid=89628f3e-b2f1-448c-b0df-984f390dff2)

Anandamide modulates the neuroendocrine responses induced by extracellular volume expansion. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23875874>

Activation of spinal cannabinoid cb2 receptors inhibits neuropathic pain in streptozotocin-induced diabetic mice. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23892011>

Complex interaction between anandamide and the nitergic system in the dorsolateral periaqueductal gray to modulate anxiety-like behavior in rats. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23899460>

### **AM- 281** - CB1 antagonist and inverse agonist

Design and Synthesis of the CB1 Selective Cannabinoid Antagonist AM281: A Potential Human SPECT Ligand (link to PDF – 1999) <http://www.aapsj.org/view.asp?art=ps010204>

[123I]AM281 single-photon emission computed tomography imaging of central cannabinoid CB1 receptors before and after Delta9-tetrahydrocannabinol therapy and whole-body scanning for assessment of radiation dose in tourette patients.

(abst – 2004) <http://www.ncbi.nlm.nih.gov/pubmed/15110734>

Effects of AM281, a cannabinoid antagonist, on systemic haemodynamics, internal carotid artery blood flow and mortality in septic shock in rats (full – 2005)

<http://bj.oxfordjournals.org/content/94/5/563.full>

CARDIOVASCULAR Effects of AM281, a cannabinoid antagonist, on systemic haemodynamics, internal carotid artery blood flow and mortality in septic shock in rats (abst – 2005) <http://academic.research.microsoft.com/Paper/11905213>

The analgesic activity of paracetamol is prevented by the blockade of cannabinoid CB1 receptors (abst – 2005) <http://www.sciencedirect.com/science/article/pii/S0014299905013178>

Effects of AM281, a cannabinoid antagonist, on circulatory deterioration and cytokine production in an endotoxin shock model: comparison with norepinephrine. (abst – 2006) <http://www.ncbi.nlm.nih.gov/pubmed/17072693>

The GPR55 ligand L-alpha-lysophosphatidylinositol promotes RhoA-dependent Ca<sup>2+</sup> signaling and NFAT activation. (full – 2009) <http://www.fasebj.org/content/23/1/183.long>

GPR55 ligands promote receptor coupling to multiple signalling pathways. (full – 2010) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2931561/?tool=pubmed>

Expression of cannabinoid CB1 receptors by vagal afferent neurons: kinetics and role in influencing neurochemical phenotype (full – 2010) <http://ajpgi.physiology.org/content/299/1/G63.full?sid=fc6948f0-78cf-405c-981b-afaa05ee417c>

Cannabinoid receptor-dependent and -independent anti-proliferative effects of omega-3 ethanolamides in androgen receptor-positive and -negative prostate cancer cell lines. (full – 2010) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2930808/?tool=pubmed>

Angiotensin II induces vascular endocannabinoid release, which attenuates its vasoconstrictor effect via CB1 cannabinoid receptors. (full – 2012) <http://www.jbc.org/content/early/2012/07/11/jbc.M112.346296.full.pdf+html>

Early Endogenous Activation of CB1 and CB2 Receptors after Spinal Cord Injury Is a Protective Response Involved in Spontaneous Recovery (full – 2012) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3496738/>

The cannabinoid receptor CB1 modulates the signaling properties of the lysophosphatidylinositol receptor GPR55. (full – 2012) <http://www.jbc.org/content/early/2012/11/16/jbc.M112.364109.long>

Regulation of endocannabinoid release by G proteins: A paracrine mechanism of G protein-coupled receptor action. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22075205>

Cannabinoids inhibit peptidoglycan-induced phosphorylation of NF- $\kappa$ B and cell growth in U87MG human malignant glioma cells. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22842590>

Peripheral antinociceptive effect of anandamide and drugs that affect the endocannabinoid system on the formalin test in normal and streptozotocin-diabetic rats. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22959964>

Endogenous cannabinoid receptor CB1 activation promotes vascular smooth muscle cell proliferation and neointima formation. (full – 2013)  
<http://www.jlr.org/content/early/2013/03/11/jlr.M035147.long>

Acetaldehyde as a drug of abuse: insight into AM281 administration on operant-conflict paradigm in rats (full – 2013)  
[http://www.frontiersin.org/Behavioral\\_Neuroscience/10.3389/fnbeh.2013.00064/full](http://www.frontiersin.org/Behavioral_Neuroscience/10.3389/fnbeh.2013.00064/full)

GPR55 and its interaction with membrane lipids: comparison with other endocannabinoid-binding receptors. (link to PDF - 2013)  
<http://www.eurekaselect.com/105678/article>

Cannabinoid Receptors as Therapeutic Targets for Dialysis-Induced Peritoneal Fibrosis. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23296044>

AM281, Cannabinoid Antagonist/Inverse agonist, Ameliorates Scopolamine-Induced Cognitive Deficit. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23493185>

The non-selective cannabinoid receptor agonist WIN 55,212-2 attenuates responses of C-fiber nociceptors in a murine model of cancer pain. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23673278>

Cannabinoid receptor activation in the nucleus tractus solitaries produces baroreflex-like responses in the rat. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23675095>

Dysregulation of Cannabinoid CB1 Receptor and Associated Signaling Networks in Brains of Cocaine Addicts and Cocaine-Treated Rodents. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23727505>

#### **AM-404** – cannabinoid transport inhibitor

Anandamide transport is independent of fatty-acid amide hydrolase activity and is blocked by the hydrolysis-resistant inhibitor AM1172. (full – 2004)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC423268/>

Easing anxiety with anandamide (news – 2004)  
<http://www.rsc.org/chemistryworld/Issues/2004/July/anandamide.asp>

Synergistic Interactions between Cannabinoids and Environmental Stress in the Activation of the Central Amygdala (full - 2005)  
<http://www.nature.com/npp/journal/v30/n3/full/1300535a.html>

Enhancing Cannabinoid Neurotransmission Augments the Extinction of Conditioned Fear (full - 2005) <http://www.nature.com/npp/journal/v30/n3/full/1300655a.html>

Anxiolytic-like properties of the anandamide transport inhibitor AM404. (full – 2006) <http://www.nature.com/npp/journal/v31/n12/full/1301061a.html>

The Endogenous Cannabinoid Anandamide Produces  $\delta$ -9-Tetrahydrocannabinol-Like Discriminative and Neurochemical Effects That Are Enhanced by Inhibition of Fatty Acid Amide Hydrolase but Not by Inhibition of Anandamide Transport (full - 2007) <http://jpet.aspetjournals.org/content/321/1/370.full>

$\Delta$ 9-Tetrahydrocannabinol (THC) and AM 404 protect against cerebral ischaemia in gerbils through a mechanism involving cannabinoid and opioid receptors (full - 2007) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2189998/?tool=pmcentrez>

STUDIES OF ANANDAMIDE ACCUMULATION INHIBITORS IN CEREBELLAR GRANULE NEURONS (full – 2007) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2248273/>

Pharmacological elevation of anandamide impairs short-term memory by altering the neurophysiology in the hippocampus. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21767554>

The anandamide transport inhibitor AM404 reduces the rewarding effects of nicotine and nicotine-induced dopamine elevations in the nucleus accumbens shell in rats (abst – 2011) [http://www.unboundmedicine.com/medline/ebm/record/21557729/abstract/The\\_anandamide\\_transport\\_inhibitor\\_AM404\\_reduces\\_the\\_rewarding\\_effects\\_of\\_nicotine\\_and\\_nicotine\\_induced\\_dopamine\\_elevations\\_in\\_the\\_nucleus\\_accumbens\\_shell\\_in\\_rats](http://www.unboundmedicine.com/medline/ebm/record/21557729/abstract/The_anandamide_transport_inhibitor_AM404_reduces_the_rewarding_effects_of_nicotine_and_nicotine_induced_dopamine_elevations_in_the_nucleus_accumbens_shell_in_rats)

Role of endocannabinoid and glutamatergic systems in DOI-induced head-twitch response in mice. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21504759>

Endocannabinoid analogues exacerbate marble-burying behavior in mice via TRPV1 receptor. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22248639>

Effects of the anandamide uptake blocker AM404 on food intake depend on feeding status and route of administration. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22133635>

Inhibition of fatty acid amide hydrolase by URB597 attenuates the anxiolytic-like effect of acetaminophen in the mouse elevated plus-maze test. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22750843>

Peripheral antinociceptive effect of anandamide and drugs that affect the endocannabinoid system on the formalin test in normal and streptozotocin-diabetic rats. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22959964>

Involvement of the Endocannabinoid System in Ethanol-Induced Corticostriatal Synaptic Depression. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22971846>

Diuretic effects of cannabinoids. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/23019138>

AM404 attenuates reinstatement of nicotine seeking induced by nicotine-associated cues and nicotine priming but does not affect nicotine- and food-taking. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23427192>

### **AM-630** – CB2 antagonist

AM630, a competitive cannabinoid receptor antagonist. (abst – 1995)  
<http://www.ncbi.nlm.nih.gov/pubmed/7776818>

Cannabinoid CB2 receptor activation reduces mouse myocardial ischemia-reperfusion injury: involvement of cytokine/chemokines and PMN (full - 2003)  
<http://www.jleukbio.org/cgi/content/full/75/3/453?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=320&resourcetype=HWCIT>

Inhibition of Inflammatory Hyperalgesia by Activation of Peripheral CB2 Cannabinoid Receptors (full – 2003)  
[http://journals.lww.com/anesthesiology/Fulltext/2003/10000/Inhibition\\_of\\_Inflammatory\\_Hyperalgesia\\_by\\_31.aspx](http://journals.lww.com/anesthesiology/Fulltext/2003/10000/Inhibition_of_Inflammatory_Hyperalgesia_by_31.aspx)

Antinociceptive effect of cannabinoid agonist WIN 55,212–2 in rats with a spinal cord injury (full - 2006) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1861843/?tool=pmcentrez>

Inhibition of Salivary Secretion by Activation of Cannabinoid Receptors (full - 2006)  
<http://ebm.rsmjournals.com/cgi/content/full/231/8/1421?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=880&resourcetype=HWCIT>

The local antinociceptive effects of paracetamol in neuropathic pain are mediated by cannabinoid receptors (abst – 2007)  
<http://www.sciencedirect.com/science/article/pii/S0014299907007935>

Regulation of Bone Mass, Osteoclast Function, and Ovariectomy-Induced Bone Loss by the Type 2 Cannabinoid Receptor (full - 2008)  
<http://endo.endojournals.org/cgi/content/full/149/11/5619?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=240&resourcetype=HWCIT>

Attenuation of Experimental Autoimmune Hepatitis by Exogenous and Endogenous Cannabinoids: Involvement of Regulatory T Cells (full - 2008)  
<http://molpharm.aspetjournals.org/content/74/1/20.full?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=320&resourcetype=HWCIT#content-block>

Cannabinoid CB2 Receptor Potentiates Obesity-Associated Inflammation, Insulin Resistance and Hepatic Steatosis (full - 2009)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2688760/?tool=pubmed>

Cannabinoid receptor-dependent and -independent anti-proliferative effects of omega-3 ethanolamides in androgen receptor-positive and -negative prostate cancer cell lines.

(full – 2010) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2930808/?tool=pubmed>

A nonsynonymous polymorphism in cannabinoid CB2 receptor gene is associated with eating disorders in humans and food intake is modified in mice by its ligands.

(abst – 2010) <http://www.ncbi.nlm.nih.gov/pubmed/19768813>

Cannabinoid receptor-2 (CB2) agonist ameliorates colitis in IL-10(-/-) mice by attenuating the activation of T cells and promoting their apoptosis. (abst – 2011)

<http://www.ncbi.nlm.nih.gov/pubmed/22119709>

Cannabinoid-2 Receptor Activation Protects against Infarct and Ischemia/Reperfusion Heart Injury. (abst – 2011)

<http://www.ncbi.nlm.nih.gov/pubmed/22113346>

The role of central CB2 cannabinoid receptors on food intake in neonatal chicks

(abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21927979>

Effects of a Selective Cannabinoid CB2 Agonist and Antagonist on Intravenous Nicotine Self Administration and Reinstatement of Nicotine Seeking. (full – 2012)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3266883/?tool=pubmed>

Early Endogenous Activation of CB1 and CB2 Receptors after Spinal Cord Injury Is a Protective Response Involved in Spontaneous Recovery (full – 2012)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3496738/>

The role of CB2 receptor ligands in human eosinophil function (full – 2012)

<http://www.biomedcentral.com/content/pdf/2050-6511-13-S1-A13.pdf>

The maintenance of cisplatin- and paclitaxel-induced mechanical and cold allodynia is suppressed by cannabinoid CB2 receptor activation and independent of CXCR4 signaling in models of chemotherapy-induced peripheral neuropathy. (full – 2012)

<http://www.molecularpain.com/content/8/1/71>

Effect of omega-3 polyunsaturated fatty acids on the endocannabinoid system in osteoblast-like cells and muscle (abst – 2012)

<http://docs.lib.purdue.edu/dissertations/AAI3444794/>

Cannabinoids and muscular pain. Effectiveness of the local administration in rat.

(abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22354705>

Cannabinoids ameliorate disease progression in a model of multiple sclerosis in mice, acting preferentially through CB(1) receptor-mediated anti-inflammatory effects.

(abst - 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22342378>

Cannabinoid receptor 2 agonist ameliorates mesenteric angiogenesis and portosystemic collaterals in cirrhotic rats. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22290687>

Peripheral antinociceptive effect of anandamide and drugs that affect the endocannabinoid system on the formalin test in normal and streptozotocin-diabetic rats. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22959964>

Anandamide enhances expression of heat shock protein 72 to protect against ischemia-reperfusion injury in rat heart. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/23007622>

Diuretic effects of cannabinoids. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/23019138>

Acute toxicity due to the confirmed consumption of synthetic cannabinoids: clinical and laboratory findings (abst – 2012)  
<http://onlinelibrary.wiley.com/doi/10.1111/j.1360-0443.2012.04078.x/abstract>

Anti-Inflammatory Effect of the Endocannabinoid Anandamide in Experimental Periodontitis and Stress in the Rat (abst – 2012)  
<http://content.karger.com/produktedb/produkte.asp?doi=339113>

CB1 and CB2 Cannabinoid Receptor Agonists Induce Peripheral Antinociception by Activation of the Endogenous Noradrenergic System. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23302980>

Inhibition of endocannabinoid degradation in experimental endotoxemia reduces leukocyte adhesion and improves capillary perfusion in the gut. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23382309>

Activation of Cannabinoid CB2 Receptor-Mediated AMPK/CREB Pathway Reduces Cerebral Ischemic Injury. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23414569>

The complex effects of cannabinoids on insulin secretion from rat isolated islets of Langerhans. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23499687>

Activation of Cannabinoid Receptor 2 Inhibits Experimental Cystitis. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23515618>

Mechanisms Of Cannabidiol Neuroprotection In Hypoxic-Ischemic Newborn Pigs: Role Of 5HT1A And CB2 Receptors. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23587650>

Inhibitory effects of endocannabinoid on the action potential of pacemaker cells in sinoatrial nodes of rabbits. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23598867>

The fatty acid amide hydrolase inhibitor, URB597, promotes retinal ganglion cell neuroprotection in a rat model of optic nerve axotomy. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23643752>

The non-selective cannabinoid receptor agonist WIN 55,212-2 attenuates responses of C-fiber nociceptors in a murine model of cancer pain. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23673278>

Modulation of anxiety-like behaviour by the endocannabinoid 2-arachidonoylglycerol (2-AG) in the dorsolateral periaqueductal gray. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23714073>

Synaptic plasticity alterations associated with memory impairment induced by deletion of CB2 cannabinoid receptors. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23796670>

CB1 and CB2 contribute to antinociceptive and anti-inflammatory effects of electroacupuncture on experimental arthritis of the rat temporomandibular joint.

(abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23181276>

Activation of spinal cannabinoid cb2 receptors inhibits neuropathic pain in streptozotocin-induced diabetic mice. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23892011>

Activation of cortical type 2 cannabinoid receptors ameliorates ischemic brain injury

(news – 2013) [http://www.eurekalert.org/pub\\_releases/2013-02/ehs-aoc022113.php](http://www.eurekalert.org/pub_releases/2013-02/ehs-aoc022113.php)

Cannabinoid Trans-Caryophyllene Protects Brain Cells From Ischemia (news – 2013)

<http://www.medicalnewstoday.com/articles/256799.php>

AM -678 - see JWH -100

AM-694 – CB1 & CB2 agonist

Beyond THC: The New Generation of Cannabinoid Designer Drugs. (full – 2011)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3187647/?tool=pubmed>

The impact of changes in UK classification of the synthetic cannabinoid receptor agonists in 'Spice'. (abst – 2011)

<http://www.ncbi.nlm.nih.gov/pubmed/21482092>

The detection of the urinary metabolites of 1-[(5-fluoropentyl)-1H-indol-3-yl]-(2-iodophenyl)methanone (AM-694), a high affinity cannabimimetic, by gas chromatography - mass spectrometry. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22522907>

Acute toxicity due to the confirmed consumption of synthetic cannabinoids: clinical and laboratory findings (abst – 2012)

<http://onlinelibrary.wiley.com/doi/10.1111/j.1360-0443.2012.04078.x/abstract>

Synthetic Cannabinoids -The Challenges of Testing for Designer Drugs  
(article – 2013)

<http://www.aacc.org/publications/cln/2013/february/Pages/Cannabinoids.aspx?PassThru=ok&PersonID=206339#>

Toxicological profiles of selected synthetic cannabinoids showing high binding affinities to the cannabinoid receptor subtype CB1. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23494106>

A Case of Cannabinoid Hyperemesis Syndrome Caused by Synthetic Cannabinoids.

(abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23890687>

### **AM-1172** - anandamide transport inhibitor

Anandamide transport is independent of fatty-acid amide hydrolase activity and is blocked by the hydrolysis-resistant inhibitor AM1172. (full – 2004)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC423268/>

New molecule may be basis for drugs that battle overeating and drug dependency

(news – 2004) [http://archive.today.uci.edu/news/release\\_detail.asp?key=1155](http://archive.today.uci.edu/news/release_detail.asp?key=1155)

Easing anxiety with anandamide (news – 2004)

<http://www.rsc.org/chemistryworld/Issues/2004/July/anandamide.asp>

Anandamide Compound Targets Brain's 'Bliss' System (news – 2005)

<http://alcoholism.about.com/od/cure/a/blnida050112.htm>

STUDIES OF ANANDAMIDE ACCUMULATION INHIBITORS IN CEREBELLAR GRANULE NEURONS (full – 2007)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2248273/>

### **AM-1241** - CB 2 agonist

Activation of CB2 cannabinoid receptors by AM1241 inhibits experimental neuropathic pain: Pain inhibition by receptors not present in the CNS (full - 2003)

<http://www.pnas.org/content/100/18/10529.full>

Inhibition of Inflammatory Hyperalgesia by Activation of Peripheral CB2 Cannabinoid Receptors (full – 2003)

[http://journals.lww.com/anesthesiology/Fulltext/2003/10000/Inhibition\\_of\\_Inflammatory\\_Hyperalgesia\\_by\\_31.aspx](http://journals.lww.com/anesthesiology/Fulltext/2003/10000/Inhibition_of_Inflammatory_Hyperalgesia_by_31.aspx)

New Compound That Acts On Peripheral Receptors May Be Promising Treatment For Some Nerve Pain (news - 2003)

<http://www.sciencedaily.com/releases/2003/08/030812073750.htm>

CB2 cannabinoid receptor activation produces antinociception by stimulating peripheral release of endogenous opioids (full - 2005) <http://www.pnas.org/content/102/8/3093.full>

Cannabinoid CB2 receptor agonist activity in the hindpaw incision model of postoperative pain. (abst - 2005) <http://www.ncbi.nlm.nih.gov/pubmed/16316653>

In vitro pharmacological characterization of AM1241: a protean agonist at the cannabinoid CB2 receptor? (full - 2006)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2013801/?tool=pubmed>

AM1241, a cannabinoid CB2 receptor selective compound, delays disease progression in a mouse model of amyotrophic lateral sclerosis. (abst - 2006)

<http://www.ncbi.nlm.nih.gov/pubmed/16781706>

The CB2 cannabinoid agonist AM-1241 prolongs survival in a transgenic mouse model of amyotrophic lateral sclerosis when initiated at symptom onset (full - 2007)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2819701/?tool=pmcentrez>

Peripheral Cannabinoids Attenuate Carcinoma Induced Nociception in Mice (full - 2008) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2771220/>

Selective Activation of Cannabinoid CB2 Receptors Suppresses Neuropathic Nociception Induced by Treatment with the Chemotherapeutic Agent Paclitaxel in Rats (full - 2008)

<http://jpet.aspetjournals.org/content/327/2/584.full#content-block>

The endocannabinoid system in amyotrophic lateral sclerosis. (abst - 2008)

<http://www.ncbi.nlm.nih.gov/pubmed/18781981>

Activation of the cannabinoid 2 receptor (CB2) protects against experimental colitis. (full - 2009) <http://onlinelibrary.wiley.com/doi/10.1002/ibd.20960/full>

Spinal and peripheral analgesic effects of the CB cannabinoid receptor agonist AM1241 in two models of bone cancer-induced pain. (full - 2010)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2931557/?tool=pubmed>

A cannabinoid 2 receptor agonist attenuates bone cancer-induced pain and bone loss. (abst - 2010) <http://www.ncbi.nlm.nih.gov/pubmed/20176037>

Cannabinoids attenuate cancer pain and proliferation in a mouse model.

(full - 2011) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3099480/?tool=pubmed>

Self-medication of a cannabinoid CB(2) agonist in an animal model of neuropathic pain.  
(abst – 2011)

[http://www.unboundmedicine.com/medline/ebm/record/21550725/abstract/Self\\_medication\\_of\\_a\\_cannabinoid\\_CB\\_2\\_agonist\\_in\\_an\\_animal\\_model\\_of\\_neuropathic\\_pain](http://www.unboundmedicine.com/medline/ebm/record/21550725/abstract/Self_medication_of_a_cannabinoid_CB_2_agonist_in_an_animal_model_of_neuropathic_pain)

Regulation of hematopoietic stem cell trafficking and mobilization by the endocannabinoid system. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/22074629>

Cannabinoid receptor 2 and its agonists mediate hematopoiesis and hematopoietic stem and progenitor cell mobilization. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21063029>

Antinociceptive effects induced through the stimulation of spinal cannabinoid type 2 receptors in chronically inflamed mice (abst - 2011)

[http://www.unboundmedicine.com/medline/ebm/record/21771590/abstract/Antinociceptive\\_effects\\_induced\\_through\\_the\\_stimulation\\_of\\_spinal\\_cannabinoid\\_type\\_2\\_receptors\\_in\\_chronically\\_inflamed\\_mice](http://www.unboundmedicine.com/medline/ebm/record/21771590/abstract/Antinociceptive_effects_induced_through_the_stimulation_of_spinal_cannabinoid_type_2_receptors_in_chronically_inflamed_mice)

Effects of a Selective Cannabinoid CB2 Agonist and Antagonist on Intravenous Nicotine Self Administration and Reinstatement of Nicotine Seeking. (full – 2012)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3266883/?tool=pubmed>

Therapeutic modulation of cannabinoid lipid signaling: Metabolic profiling of a novel antinociceptive cannabinoid-2 receptor agonist. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22749867>

Prevention of Fibrosis Progression in CCl4-Treated Rats: Role of the Hepatic Endocannabinoid and Apelin Systems (abst – 2012)

<http://jpet.aspetjournals.org/content/340/3/629.abstract?sid=ae58f15a-06bb-4a81-b850-61bb89fd59f5>

Diuretic effects of cannabinoids. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/23019138>

Cannabinoid Receptors as Therapeutic Targets for Dialysis-Induced Peritoneal Fibrosis. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23296044>

### **AM-1346** - CB1 agonist

Synthetic Cannabinoid May Aid Fertility In Smokers (news - 2006)

<http://www.medicalnewstoday.com/articles/58063.php>

Marijuana-like Chemical Can Restore Sperm Function Lost to Tobacco Abuse

(news - 2006) [http://www.rxpnews.com/specialtopics/article\\_5093.shtml](http://www.rxpnews.com/specialtopics/article_5093.shtml)

Cannabis-based boost for smokers' suffering sperm (news - 2006)

(may need registration)

<http://www.newscientist.com/article/dn10362-cannabisbased-boost-for-smokers-suffering-sperm.html>

Effects of AM1346, a high-affinity CB1 receptor selective anandamide analog, on open-field behavior in rats. (abst – 2007) <http://www.ncbi.nlm.nih.gov/pubmed/17912052>

Discriminative stimulus functions in rats of AM1346, a high-affinity CB1R selective anandamide analog. (full – 2008)

<http://www.springerlink.com/content/n278340k6q47141k/fulltext.html>

Scientist Discovers New Molecule to Treat Chronic Pain (news - 2008)

<http://www.physorg.com/news13778721.html>

### **AM-1710** – CB2 agonist

Pharmacological characterization of AM1710, a putative cannabinoid CB(2) agonist from the cannabillactone class: Antinociception without central nervous system side-effects.

(abst – 2011)

[http://www.unboundmedicine.com/medline/ebm/record/21382397/abstract/Pharmacological\\_characterization\\_of\\_AM1710\\_a\\_putative\\_cannabinoid\\_CB\\_2\\_agonist\\_from\\_the\\_cannabillactone\\_class:\\_Antinociception\\_without\\_central\\_nervous\\_system\\_side\\_effects](http://www.unboundmedicine.com/medline/ebm/record/21382397/abstract/Pharmacological_characterization_of_AM1710_a_putative_cannabinoid_CB_2_agonist_from_the_cannabillactone_class:_Antinociception_without_central_nervous_system_side_effects)

The maintenance of cisplatin- and paclitaxel-induced mechanical and cold allodynia is suppressed by cannabinoid CB2 receptor activation and independent of CXCR4 signaling in models of chemotherapy-induced peripheral neuropathy (full – 2012)

<http://www.molecularpain.com/content/8/1/71>

Intrathecal cannabillactone CB(2)R agonist, AM1710, controls pathological pain and restores basal cytokine levels. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22425445>

### **AM-2201** – CB1 agonist

Analysis of 30 synthetic cannabinoids in serum by liquid chromatography-electrospray ionization tandem mass spectrometry after liquid-liquid extraction (abst – 2012)

<http://onlinelibrary.wiley.com/doi/10.1002/jms.3020/abstract>

First European case of convulsions related to analytically confirmed use of the synthetic cannabinoid receptor agonist AM-2201. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22936123>

Identification and Structural Elucidation of Four Cannabimimetic Compounds (RCS-4, AM-2201, JWH-203 and JWH-210) in Seized Products. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23339188>

Qualitative Confirmation of 9 Synthetic Cannabinoids and 20 Metabolites in Human Urine Using LC-MS/MS and Library Search. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23458260>

Analysis of new classes of recreational drugs in sewage: Synthetic cannabinoids and amphetamine-like substances. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23460377>

Driving under the influence of synthetic cannabinoids ("Spice"): a case series.

(abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23636569>

Validation of a Novel Immunoassay for the Detection of Synthetic Cannabinoids and Metabolites in Urine Specimens. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23625703>

K2 Toxicity: Fatal Case of Psychiatric Complications Following AM2201 Exposure.

(abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23822805>

Identification and Structural Elucidation of Four Cannabimimetic Compounds (RCS-4, AM-2201, JWH-203 and JWH-210) in Seized Products (abst – 2013)

<http://jat.oxfordjournals.org/content/37/2/56.abstract?sid=7be65428-0ff8-4917-884b-c35f5a2819af>

A Case of Cannabinoid Hyperemesis Syndrome Caused by Synthetic Cannabinoids.

(abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23890687>

### **AM -2233** – CB1 agonist

F200A substitution in the third transmembrane helix of human cannabinoid CB1 receptor converts AM2233 from receptor agonist to inverse agonist. (abst – 2006)

<http://www.ncbi.nlm.nih.gov/pubmed/16438957>

Evaluation of the in vivo receptor occupancy for the behavioral effects of cannabinoids using a radiolabeled cannabinoid receptor agonist, R-[125/131I]AM2233.

(abst – 2006) <http://www.ncbi.nlm.nih.gov/pubmed/16715483>

Another nail in coffin of synthetic cannabis (news – 2011)

<http://tvnz.co.nz/national-news/another-nail-in-coffin-synthetic-cannabis-4666168?ref=rss>

Characteristics of the designer drug and synthetic cannabinoid receptor agonist AM-2201 regarding its chemistry and metabolism. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23832945>

**AM-3506** – blocks the break-down of Anandamide

Inhibitor of fatty acid amide hydrolase normalizes cardiovascular function in hypertension without adverse metabolic effects. (full – 2010)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3003779/>

Sulfonyl fluoride inhibitors of Fatty Acid amide hydrolase. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/23083016>

Convergent translational evidence of a role for anandamide in amygdala-mediated fear extinction, threat processing and stress-reactivity (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22688188>

Acute reduction of anandamide-hydrolase (FAAH) activity is coupled with a reduction of nociceptive pathways facilitation in medication-overuse headache subjects after withdrawal treatment. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22670561?dopt=Abstract>

Modulating the endocannabinoid system in human health and disease: successes and failures (full – 2013)

<http://onlinelibrary.wiley.com/doi/10.1111/febs.12260/pdf>

**AM- 4054** - CB1 agonist

[Behavioral Profile of the Novel Cannabinoid Agonist AM4054](#) (thesis - 2006)

[http://digitalcommons.uconn.edu/cgi/viewcontent.cgi?article=1016&context=srhonors\\_theses&sei-redir=1#search=%22am-4054%20%2Bcannabinoid%22](http://digitalcommons.uconn.edu/cgi/viewcontent.cgi?article=1016&context=srhonors_theses&sei-redir=1#search=%22am-4054%20%2Bcannabinoid%22)

Effects of a Selective Cannabinoid Agonist and Antagonist on Body Temperature in Rats (abst - 2007)

[http://www.fasebj.org/cgi/content/meeting\\_abstract/21/5/A409?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=800&resourcetype=HWCIT](http://www.fasebj.org/cgi/content/meeting_abstract/21/5/A409?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=800&resourcetype=HWCIT)

Diuretic effects of cannabinoids. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/23019138>

Behavioral effects of the novel potent cannabinoid CB1 agonist AM 4054. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23603029>

Effects of anandamide and other CB1 ligands on cognitive function (abst – 2013)

[http://www.fasebj.org/cgi/content/meeting\\_abstract/27/1\\_MeetingAbstracts/1097.10?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad](http://www.fasebj.org/cgi/content/meeting_abstract/27/1_MeetingAbstracts/1097.10?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad)

**AM- 4113** –CB1 antagonist

Effects of a Selective Cannabinoid Agonist and Antagonist on Body Temperature in Rats  
(abst - 2007)

[http://www.fasebj.org/cgi/content/meeting\\_abstract/21/5/A409?maxtoshow=&hits=80&RESULTFORMA T=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=800&resourcetype=HWCIT](http://www.fasebj.org/cgi/content/meeting_abstract/21/5/A409?maxtoshow=&hits=80&RESULTFORMA T=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=800&resourcetype=HWCIT)

The neutral cannabinoid CB<sub>1</sub> receptor antagonist AM4113 regulates body weight through changes in energy intake in the rat. (abst – 2011)

<http://www.ncbi.nlm.nih.gov/pubmed/21056053>

The CB(1) Receptor-Mediated Endocannabinoid Signaling and NGF: The Novel Targets of Curcumin. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22311129>

**AM- 6545** –CB1 antagonist

Rehashing endocannabinoid antagonists: can we selectively target the periphery to safely treat obesity and type 2 diabetes? (full – 2010)

[http://www.jci.org/articles/view/44099?search\[abstract\\_text\]=&search\[article\\_text\]=cannabinoid&search\[authors\\_text\]=&search\[fpage\]=&search\[title\\_text\]=&search\[volume\]=](http://www.jci.org/articles/view/44099?search[abstract_text]=&search[article_text]=cannabinoid&search[authors_text]=&search[fpage]=&search[title_text]=&search[volume]=)

**AM- 6546** – CB1 antagonist

Endocannabinoid signaling in the gut mediates preference for dietary unsaturated fats.  
(abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23463697>

**AM- 6701** – equally blocks the break-down of 2-AG and anandamide

Equipotent Inhibition of Fatty Acid Amide Hydrolase and Monoacylglycerol Lipase - Dual Targets of the Endocannabinoid System to Protect against Seizure Pathology.

(abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22270809>

**AM- 6702** - strongly blocks the break-down of anandamide, weakly 2-AG

Equipotent Inhibition of Fatty Acid Amide Hydrolase and Monoacylglycerol Lipase - Dual Targets of the Endocannabinoid System to Protect against Seizure Pathology. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22270809>

**AS- 1535907** synthetic, GPR119 agonist

The role of small molecule GPR119 agonist, AS1535907, in glucose-stimulated insulin secretion and pancreatic  $\beta$ -cell function (abst – 2010) <http://www.ncbi.nlm.nih.gov/pubmed/21114601>

Novel GPR119 agonist AS1535907 contributes to first-phase insulin secretion in rat perfused pancreas and diabetic db/db mice. (abst – 2010) <http://www.ncbi.nlm.nih.gov/pubmed/20937249>

**AS- 1907417** synthetic, GPR119 agonist

AS1907417, a novel GPR119 agonist, as an insulinotropic and  $\beta$ -cell preservative agent for the treatment of type 2 diabetes. (abst – 2010) <http://www.ncbi.nlm.nih.gov/pubmed/20816753>

**CBD-ABN/ ABNORMAL CANNABIDIOL/ CAY10429\*** -

Vasodilator actions of abnormal-cannabidiol in rat isolated small mesenteric artery (full - 2003) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1573773/?tool=pmcentrez>

2-Arachidonylglycerol ether and abnormal cannabidiol-induced vascular smooth muscle relaxation in rabbit pulmonary arteries via receptor-pertussis toxin sensitive G proteins-ERK1/2 signaling. (abst – 2007) <http://www.ncbi.nlm.nih.gov/pubmed/17292352>

International Union of Basic and Clinical Pharmacology. LXXIX. Cannabinoid Receptors and Their Ligands: Beyond CB1 and CB2 (full – 2010) <http://pharmrev.aspetjournals.org/content/62/4/588.full.pdf+html>

N-arachidonoyl glycine, an abundant endogenous lipid, potently drives directed cellular migration through GPR18, the putative abnormal cannabidiol receptor (full – 2010)  
<http://www.biomedcentral.com/1471-2202/11/44>

Nonpsychotropic Cannabinoids, Abnormal Cannabidiol and Canabigerol-Dimethyl Heptyl, Act at Novel Cannabinoid Receptors to Reduce Intraocular Pressure.  
(abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21770780>

The abnormal cannabidiol analogue O-1602 reduces nociception in a rat model of acute arthritis via the putative cannabinoid receptor GPR55. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21683763>

siRNA knockdown of GPR18 receptors in BV-2 microglia attenuates N-arachidonoyl glycine-induced cell migration (full – 2012)  
<http://www.jmolecularsignaling.com/content/7/1/10>

GPR18 in microglia: implications for the CNS and endocannabinoid system signaling (full – 2012) <http://onlinelibrary.wiley.com/doi/10.1111/j.1476-5381.2012.02019.x/full>

Involvement of a non-CB1/CB2 cannabinoid receptor in the aqueous humor outflow-enhancing effects of abnormal-cannabidiol. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22580290>

Mechanism of Central Atypical Cannabinoid Receptor GPR18-Mediated Hypotension in Conscious Rats (abst – 2013)  
[http://www.fasebj.org/cgi/content/meeting\\_abstract/27/1\\_MeetingAbstracts/654.15?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad](http://www.fasebj.org/cgi/content/meeting_abstract/27/1_MeetingAbstracts/654.15?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad)

Role of Central Atypical Cannabinoid Receptor GPR18 in Modulating Cardiovascular Function (abst – 2013)  
[http://www.fasebj.org/cgi/content/meeting\\_abstract/26/1\\_MeetingAbstracts/663.10?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad](http://www.fasebj.org/cgi/content/meeting_abstract/26/1_MeetingAbstracts/663.10?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad)

## **CANNABINOR** - CB2 agonist

Pharmos Initiates Phase I Trial of CB2-Selective Drug Candidate Cannabinor (news – 2005) <http://www.prnewswire.com/news-releases/pharmos-initiates-phase-i-trial-of-cb2-selective-drug-candidate-cannabinor-54718747.html>

Cannabinoid Receptor Agonist Significantly Reduces Post-Operative Pain, Study Says (news – 2007) [http://norml.org/index.cfm?Group\\_ID=7246](http://norml.org/index.cfm?Group_ID=7246)

Patent application title: Treatment Of Lower Urinary Tract Dysfunction With CB2-Receptor-Selective Agonists (full – 2009)  
<http://www.fqs.org/patents/app/20090312414>

Effects of cannabior, a novel selective cannabinoid 2 receptor agonist, on bladder function in normal rats. (abst – 2010) <http://www.ncbi.nlm.nih.gov/pubmed/20207474>

Cannabior, a selective cannabinoid-2 receptor agonist, improves bladder emptying in rats with partial urethral obstruction. (abst – 2011)  
[http://www.unboundmedicine.com/medline/ebm/record/21168864/abstract/Cannabior\\_a\\_selective\\_cannabinoid\\_2\\_receptor\\_agonist\\_improves\\_bladder\\_emptying\\_in\\_rats\\_with\\_partial\\_urethral\\_obstruction](http://www.unboundmedicine.com/medline/ebm/record/21168864/abstract/Cannabior_a_selective_cannabinoid_2_receptor_agonist_improves_bladder_emptying_in_rats_with_partial_urethral_obstruction)

### **3 CARBOXAMIDO-5-ARYL-ISOXAZOLES** – CB 2 agonists

3-Carboxamido-5-aryl-isoxazoles as new CB2 agonists for the treatment of colitis. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23849204>

### **CB – 65** - CB 2 agonist

The role of central CB2 cannabinoid receptors on food intake in neonatal chicks (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21927979>

Evaluation of Anti-invasion Effect of Cannabinoids on Human Hepatocarcinoma Cells. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22978792>

Study: Cannabis Agonists Produce Anti-Cancer Effects In Human Liver Cancer Cells (news – 2012) <http://norml.org/news/2012/10/11/study-cannabis-agonists-produce-anti-cancer-effects-in-human-liver-cancer-cells>

Anti-Cancer Effects In Human Liver Cancer Cells Produced By Cannabis Agonists (news – 2012) <http://www.imarijuana.com/tag/cannabinoid-agonists>

Role of cannabinoid and vanilloid receptors in invasion of human breast carcinoma cells (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23394450>

CESAMET – see NABILONE

**COMPOUND A** - CB1/2 agonist that is excluded from the brain

An Effective Prodrug Strategy to Selectively Enhance Ocular Exposure of a Cannabinoid Receptor (CB1/2) Agonist. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23738526>

**CP 47,497** - CB1 & CB2 agonist

Cannabimimetic activity from CP-47,497, a derivative of 3-phenylcyclohexanol (abst - 1982)  
<http://jpet.aspetjournals.org/content/223/2/516.abstract?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=Hexahydrocannabinol&searchid=1&FIRSTINDEX=0&resourcetype=HWCIT>

The Conformational Properties of the Highly Selective Cannabinoid Receptor Ligand CP-55,940 (full - 1996)  
<http://www.jbc.org/content/271/18/10640.full?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=Hexahydrocannabinol&searchid=1&FIRSTINDEX=0&resourcetype=HWCIT>

Cannabinoids augment the release of neuropeptide Y in the rat hypothalamus (abst – 2005) <http://www.sciencedirect.com/science/article/pii/S0028390805001668>

Withdrawal Phenomena and Dependence Syndrome After the Consumption of "Spice Gold" (full - 2009) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2719097/?tool=pmcentrez>

Spice drugs: cannabinoids as a new designer drugs. (abst - 2009)  
[http://www.unboundmedicine.com/medline/ebm/record/19718488/abstract/%5BSpice\\_drugs:\\_cannabinoids\\_as\\_a\\_new\\_designer\\_drugs\\_%5D](http://www.unboundmedicine.com/medline/ebm/record/19718488/abstract/%5BSpice_drugs:_cannabinoids_as_a_new_designer_drugs_%5D)

Spice: a never ending story? (abst – 2009) <http://www.ncbi.nlm.nih.gov/pubmed/19589652>

Pharmacological properties and dependence liabilities of synthetic cannabinoids (abst – 2010)  
[http://www.unboundmedicine.com/medline/ebm/record/20681249/abstract/%5BPharmacological\\_properties\\_and\\_dependence\\_liabilities\\_of\\_synthetic\\_cannabinoids%5D](http://www.unboundmedicine.com/medline/ebm/record/20681249/abstract/%5BPharmacological_properties_and_dependence_liabilities_of_synthetic_cannabinoids%5D)

Monitoring of herbal mixtures potentially containing synthetic cannabinoids as psychoactive compounds. (abst – 2010) <http://www.ncbi.nlm.nih.gov/pubmed/20857386>

THIS ISN'T YOUR MOTHER'S SPICE (news - 2010)  
<http://www.mapinc.org/drugnews/v10/n497/a07.html?1173>

Now, There's a Test for That -- Norchem's "Fake Marijuana" Test Reveals Significantly Increased Abuse of Spice/K2 (news - 2010)  
<http://www.marketwire.com/press-release/Now-Theres-Test-That-Norchems-Fake-Marijuana-Test-Reveals-Significantly-Increased-Abuse-1356247.htm>

College students and use of K2: an emerging drug of abuse in young persons  
(full – 2011) <http://www.substanceabusepolicy.com/content/6/1/16>

Marijuana-based Drugs: Innovative Therapeutics or Designer Drugs of Abuse?  
(full – 2011) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3139381/?tool=pubmed>

Beyond THC: The New Generation of Cannabinoid Designer Drugs. (full – 2011)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3187647/?tool=pubmed>

Investigating a not-so-natural high. (full – 2011)  
<http://pubs.acs.org/doi/full/10.1021/ac900564u>

CP47,497-C8 and JWH073, commonly found in 'Spice' herbal blends, are potent and efficacious CB(1) cannabinoid receptor agonists. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21333643>

A method for CP 47, 497 a synthetic non-traditional cannabinoid in human urine using liquid chromatography tandem mass spectrometry. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21233028>

Synthetic cannabinoids in oral fluid. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21871150>

Cytotoxicity of synthetic cannabinoids found in "Spice" products: The role of cannabinoid receptors and the caspase cascade in the NG 108-15 cell line.  
(abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21907772>

Use of high-resolution accurate mass spectrometry to detect reported and previously unreported cannabinomimetics in "herbal high" products. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/20529459>

Effects of synthetic cannabinoids on electroencephalogram power spectra in rats.  
(abst – 2011)  
[http://www.unboundmedicine.com/medline/ebm/record/21640532/abstract/Effects\\_of\\_synthetic\\_cannabinoids\\_on\\_electroencephalogram\\_power\\_spectra\\_in\\_rats](http://www.unboundmedicine.com/medline/ebm/record/21640532/abstract/Effects_of_synthetic_cannabinoids_on_electroencephalogram_power_spectra_in_rats)

The emergence and analysis of synthetic cannabinoids. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21337724>

Chemicals Used in "Spice" and "K2" Type Products Now Under Federal Control and Regulation (news – 2011) <http://www.justice.gov/dea/pubs/pressrel/pr030111.html>

Characterization of In Vitro Metabolites of CP 47,497, a Synthetic Cannabinoid, in Human Liver Microsomes by LC-MS/MS. (full – 2012)  
<http://onlinelibrary.wiley.com/doi/10.1111/j.1556-4029.2012.02261.x/full>

Detection and quantification of new designer drugs in human blood: part 1 - synthetic cannabinoids. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22593567>

The spice in France: mixed herbs containing synthetic cannabinoids. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22796613>

Acute toxicity due to the confirmed consumption of synthetic cannabinoids: Clinical and laboratory findings. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22971158>

Getting up to speed with the public health and regulatory challenges posed by new psychoactive substances in the information age (editorial – 2013) <http://onlinelibrary.wiley.com/doi/10.1111/add.12287/full>

Synthetic Cannabinoids -The Challenges of Testing for Designer Drugs (article – 2013) <http://www.aacc.org/publications/cln/2013/february/Pages/Cannabinoids.aspx?PassThru=ok&PersonID=206339#>

#### **CP 50,556-1 / LEVONANTRADOL** - CB1 & CB2 agonist

Clinical experience with levonantradol hydrochloride in the prevention of cancer chemotherapy-induced nausea and vomiting. (abst – 1981) <http://www.ncbi.nlm.nih.gov/pubmed/7298877>

Randomised Clinical Trial of Levonantradol and Chlorpromazine in the Prevention of Radiotherapy-induced Vomiting. (abst - 1982) <http://www.ncbi.nlm.nih.gov/pubmed/6754212>

Levonantradol, a new antiemetic with a high rate of side-effects for the prevention of nausea and vomiting in patients receiving cancer chemotherapy. (abst – 1982) <http://www.ncbi.nlm.nih.gov/pubmed/7139853>

Respiratory and cardiovascular depressant effects of nabilone, N-methyllevonantradol and delta 9-tetrahydrocannabinol in anesthetized cats. (abst - 1983) <http://jpet.aspetjournals.org/content/227/2/508.abstract?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=marihuana&searchid=1&FIRSTINDEX=1920&resourcetype=HWCIT>

Levonantradol: a synthetic cannabinoid in the treatment of severe chemotherapy-induced nausea and vomiting resistant to conventional anti-emetic therapy. (abst – 1983) <http://www.ncbi.nlm.nih.gov/pubmed/6309451>

Antiemetic efficacy of levonantradol compared to delta-9-tetrahydrocannabinol for chemotherapy-induced nausea and vomiting. (abst – 1985) <http://www.ncbi.nlm.nih.gov/pubmed/2981616>

Thujone exhibits low affinity for cannabinoid receptors but fails to evoke cannabimimetic responses. (abst – 1999) <http://www.ncbi.nlm.nih.gov/pubmed/10080239>

Delta(9)-tetrahydrocannabinol and synthetic cannabinoids prevent emesis produced by the cannabinoid CB(1) receptor antagonist/inverse agonist SR 141716A. (full – 2001) <http://www.nature.com/npp/journal/v24/n2/full/1395605a.html>

Marijuana-based Drugs: Innovative Therapeutics or Designer Drugs of Abuse? (full – 2011) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3139381/?tool=pubmed>

Levonantradol: asymmetric synthesis and structural analysis. (abst – 2013) <http://pubs.rsc.org/en/Content/ArticleLanding/2013/CC/c3cc41388h>

### **CP 55,940** - CB1, CB2 & GPR-55 agonist

Molecular cloning of a human cannabinoid receptor which is also expressed in testis (full – 1991) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1151556/>

Cannabinoid receptor agonists inhibit Ca current in NG108-15 neuroblastoma cells via a pertussis toxin-sensitive mechanism. (full - 1992) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1907498/?tool=pmcentrez&page=1>

Cross-tolerance between delta-9-tetrahydrocannabinol and the cannabimimetic agents, CP 55,940, WIN 55,212-2 and anandamide. (full - 1993) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2175863/?tool=pmcentrez&page=1>

Cannabinoids enhance human B-cell growth at low nanomolar concentrations. (abst – 1995) <http://www.ncbi.nlm.nih.gov/pubmed/7544292>

AM630, a competitive cannabinoid receptor antagonist. (abst – 1995) <http://www.ncbi.nlm.nih.gov/pubmed/7776818>

Involvement of Dynorphin B in the Antinociceptive Effects of the Cannabinoid CP55,940 in the Spinal Cord (full - 1997) <http://jpet.aspetjournals.org/content/281/2/730.full>

Cannabinoid Receptor Agonists Protect Cultured Rat Hippocampal Neurons from Excitotoxicity (full - 1998) <http://molpharm.aspetjournals.org/content/54/3/459.full>

Potent Effects of a Selective Cannabinoid Receptor Agonist on Some Guinea Pig Medial Vestibular Nucleus Neurons. (abst – 1998) <http://www.ncbi.nlm.nih.gov/pubmed/9650841>

The role of cannabinoid receptors in intestinal motility, defaecation and diarrhoea in rats (abst - 1999) <http://www.ncbi.nlm.nih.gov/pubmed/10611417>

Effects of cannabinoid receptor agonists on neuronally-evoked contractions of urinary bladder tissues isolated from rat, mouse, pig, dog, monkey and human (full - 2000)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1571997/?tool=pmcentrez>

Cannabinoid CB1-receptor mediated regulation of gastrointestinal motility in mice in a model of intestinal inflammation (full - 2001)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1572987/?tool=pmcentrez>

Cannabinoid effects on anxiety-related behaviours and hypothalamic neurotransmitters. (abst - 2001) <http://www.ncbi.nlm.nih.gov/pubmed/11566149>

The potent emetogenic effects of the endocannabinoid, 2-AG (2-arachidonoylglycerol) are blocked by delta(9)-tetrahydrocannabinol and other cannabinoids. (full - 2002)  
<http://jpet.aspetjournals.org/content/300/1/34.long>

Chronic Morphine Modulates the Contents of the Endocannabinoid, 2-Arachidonoyl Glycerol, in Rat Brain (full - 2003)  
<http://www.nature.com/npp/journal/v28/n6/full/1300117a.html>

Inhibition of guinea-pig and human sensory nerve activity and the cough reflex in guinea-pigs by cannabinoid (CB2) receptor activation. (full - 2003)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1574031/?tool=pubmed>

CANNABINOIDS ALTER RECOGNITION MEMORY IN RATS (full - 2003)  
[http://www.if-pan.krakow.pl/pjp/pdf/2003/5\\_903.pdf](http://www.if-pan.krakow.pl/pjp/pdf/2003/5_903.pdf)

Synergistic Interactions between Cannabinoids and Environmental Stress in the Activation of the Central Amygdala (full - 2005)  
<http://www.nature.com/npp/journal/v30/n3/full/1300535a.html>

Avoidance of Abeta[(25-35)] / (H(2)O(2)) -induced apoptosis in lymphocytes by the cannabinoid agonists CP55,940 and JWH-015 via receptor-independent and PI3K-dependent mechanisms: role of NF-kappaB and p53. (abst - 2005)  
<http://www.ncbi.nlm.nih.gov/pubmed/17017986>

Effects of repeated administration with CP-55,940, a cannabinoid CB1 receptor agonist on the metabolism of the hepatic heme. (abst - 2005)  
<http://www.ncbi.nlm.nih.gov/pubmed/15896668>

Endocannabinoids -- The Brain's Cannabis -- Demonstrate Novel Modes Of Action To Stress (news - 2005) <http://www.sciencedaily.com/releases/2005/07/050720065810.htm>

Chronologically overlapping occurrences of nicotine-induced anxiety- and depression-related behavioral symptoms: effects of anxiolytic and cannabinoid drugs (full - 2007)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2075518/?tool=pubmed>

Control of spasticity in a multiple sclerosis model is mediated by CB1, not CB2, cannabinoid receptors. (full - 2007)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2189718/?tool=pubmed>

The orphan receptor GPR55 is a novel cannabinoid receptor. (full – 2007)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2095107/?tool=pubmed>

Spinal cannabinoid receptor type 2 activation reduces hypersensitivity and spinal cord glial activation after paw incision. (full - 2007)

<http://journals.lww.com/anesthesiology/pages/articleviewer.aspx?year=2007&issue=04000&article=00021&type=abstract>

Virodhamine and CP55,940 modulate cAMP production and IL-8 release in human bronchial epithelial cells. (full – 2007)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2042924/?tool=pubmed>

CB2 receptors in the brain: role in central immune function (full - 2007)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2219530/?tool=pmcentrez>

Cannabinoids enhance gastric X/A-like cells activity. (full – 2008)

<http://czasopisma.viamedica.pl/fhc/article/view/4436/3691>

Attenuation of Experimental Autoimmune Hepatitis by Exogenous and Endogenous Cannabinoids: Involvement of Regulatory T Cells (full - 2008)

<http://molpharm.aspetjournals.org/content/74/1/20.full?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=320&resourcetype=HWCIT#content-block>

Cannabinoids Inhibit HIV-1 Gp120-Mediated Insults in Brain Microvascular Endothelial Cells (full - 2008)

<http://www.jimmunol.org/cgi/content/full/181/9/6406?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=160&resourcetype=HWCIT>

The cannabinoid CP55,940 prolongs survival and improves locomotor activity in *Drosophila melanogaster* against paraquat: implications in Parkinson's disease.

(abst - 2008) <http://www.ncbi.nlm.nih.gov/pubmed/18538428>

Distribution and function of cannabinoid receptors 1 and 2 in the rat, monkey and human bladder. (abst - 2009)

<http://www.ncbi.nlm.nih.gov/pubmed/19237169>

Attenuation of morphine antinociceptive tolerance by a CB(1) receptor agonist and an NMDA receptor antagonist: Interactive effects. (full – 2010)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2813317/?tool=pubmed>

Cannabinoid inhibition of macrophage migration to the trans-activating (Tat) protein of HIV-1 is linked to the CB(2) cannabinoid receptor. (full – 2010)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2846023/?tool=pubmed>

Rimonabant-induced Delta9-tetrahydrocannabinol withdrawal in rhesus monkeys: discriminative stimulus effects and other withdrawal signs. (abst – 2010)

[http://www.unboundmedicine.com/medline/ebm/record/20375197/abstract/Rimonabant\\_induced\\_Delta9\\_tetrahydrocannabinol\\_withdrawal\\_in\\_rhesus\\_monkeys\\_discriminative\\_stimulus\\_effects\\_and\\_other\\_withdrawal\\_signs](http://www.unboundmedicine.com/medline/ebm/record/20375197/abstract/Rimonabant_induced_Delta9_tetrahydrocannabinol_withdrawal_in_rhesus_monkeys_discriminative_stimulus_effects_and_other_withdrawal_signs)

Protective effects of the synthetic cannabinoids CP55,940 and JWH-015 on rat brain mitochondria upon paraquat exposure. (abst – 2010)

<http://www.ncbi.nlm.nih.gov/pubmed/20514518>

Effects of cannabinoid CB(1) receptor agonism and antagonism on SKF81297-induced dyskinesia and haloperidol-induced dystonia in Cebus apella monkeys. (abst – 2011)

<http://www.ncbi.nlm.nih.gov/pubmed/21029743>

Sex Differences in Cannabinoid 1 vs. Cannabinoid 2 Receptor-Selective Antagonism of Antinociception Produced by  $\Delta^9$ -Tetrahydrocannabinol and CP55,940 in the Rat (abst – 2011)

<http://jpet.aspetjournals.org/content/340/3/787.abstract?sid=2ef42c80-59ad-4b4e-8eed-d5b9d556b866>

Cytotoxicity of synthetic cannabinoids found in "Spice" products: The role of cannabinoid receptors and the caspase cascade in the NG 108-15 cell line.

(abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21907772>

Chronic  $\Delta^9$ -tetrahydrocannabinol treatment in rhesus monkeys: differential tolerance and cross-tolerance among cannabinoids. (abst – 2011)

[http://www.unboundmedicine.com/medline/ebm/record/21091643/abstract/Chronic\\_%CE%94%E2%81%B9\\_tetrahydrocannabinol\\_treatment\\_in\\_rhesus\\_monkeys\\_differential\\_tolerance\\_and\\_cross\\_tolerance\\_among\\_cannabinoids](http://www.unboundmedicine.com/medline/ebm/record/21091643/abstract/Chronic_%CE%94%E2%81%B9_tetrahydrocannabinol_treatment_in_rhesus_monkeys_differential_tolerance_and_cross_tolerance_among_cannabinoids)

Cannabinoids and bone: endocannabinoids modulate human osteoclast function in vitro

(abst – 2011) <http://onlinelibrary.wiley.com/doi/10.1111/j.1476-5381.2011.01519.x/abstract>

The schizophrenia susceptibility gene neuregulin 1 modulates tolerance to the effects of cannabinoids. (abst – 2011)

[http://www.unboundmedicine.com/medline/ebm/record/20701826/abstract/The\\_schizophrenia\\_susceptibility\\_gene\\_neuregulin\\_1\\_modulates\\_tolerance\\_to\\_the\\_effects\\_of\\_cannabinoids](http://www.unboundmedicine.com/medline/ebm/record/20701826/abstract/The_schizophrenia_susceptibility_gene_neuregulin_1_modulates_tolerance_to_the_effects_of_cannabinoids)

A synthetic cannabinoid, CP55940, inhibits lipopolysaccharide-induced cytokine mRNA expression in a cannabinoid receptor-independent mechanism in rat cerebellar granule cells. (abst – 2011)

[http://www.unboundmedicine.com/medline/ebm/record/21492165/abstract/A\\_synthetic\\_cannabinoid\\_CP55940\\_inhibits\\_lipopolysaccharide\\_induced\\_cytokine\\_mRNA\\_expression\\_in\\_a\\_cannabinoid\\_receptor\\_independent\\_mechanism\\_in\\_rat\\_cerebellar\\_granule\\_cells](http://www.unboundmedicine.com/medline/ebm/record/21492165/abstract/A_synthetic_cannabinoid_CP55940_inhibits_lipopolysaccharide_induced_cytokine_mRNA_expression_in_a_cannabinoid_receptor_independent_mechanism_in_rat_cerebellar_granule_cells)

Allosteric modulator ORG27569 induces a CB1 Cannabinoid receptor high affinity agonist binding state, receptor internalization and Gi-independent ERK1/2 activation.

(full – 2012) <http://www.jbc.org/content/early/2012/02/16/jbc.M111.316463.long>

GPR18 in microglia: implications for the CNS and endocannabinoid system signaling

(full – 2012) <http://onlinelibrary.wiley.com/doi/10.1111/j.1476-5381.2012.02019.x/full>

Effects of CP 55,940--agonist of CB1 cannabinoid receptors on ghrelin and somatostatin producing cells in the rat pancreas. (full – 2012)  
<http://czasopisma.viamedica.pl/fhc/article/view/18705/14714>

Neural Circuit in the Dorsal Raphe Nucleus Responsible for Cannabinoid-Mediated Increases in 5-HT Efflux in the Nucleus Accumbens of the Rat Brain  
(link to PDF – 2012) <http://www.hindawi.com/isrn/pharmacology/2012/276902/>

Cannabinoid Receptor Activity In The Tumour Necrosis Factor (tnf)- $\alpha$ -Induced Increased Contractility Of The Guinea-Pig Isolated Trachea (abst – 2012)  
[http://ajrcem.atsjournals.org/cgi/reprint/185/1\\_MeetingAbstracts/A2154?maxtoshow=&hits=25&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=130&sortspec=date&resourcetype=HWCI](http://ajrcem.atsjournals.org/cgi/reprint/185/1_MeetingAbstracts/A2154?maxtoshow=&hits=25&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=130&sortspec=date&resourcetype=HWCI)  
T

Activation of cannabinoid receptors prevents antigen-induced asthma-like reaction in guinea pigs. (abst – 2008) <http://www.ncbi.nlm.nih.gov/pubmed/18266975>

International Union of Basic and Clinical Pharmacology. LXXIX. Cannabinoid Receptors and Their Ligands: Beyond CB1 and CB2 (full – 2010)  
<http://pharmrev.aspetjournals.org/content/62/4/588.full.pdf+html>

Contrasting effects of different cannabinoid receptor ligands on mouse ingestive behavior (abst – 2012)  
[http://www.unboundmedicine.com/medline/ebm/record/22772336/abstract/Contrasting\\_effects\\_of\\_differen\\_t\\_cannabinoid\\_receptor\\_ligands\\_on\\_mouse\\_ingestive\\_behaviour](http://www.unboundmedicine.com/medline/ebm/record/22772336/abstract/Contrasting_effects_of_differen_t_cannabinoid_receptor_ligands_on_mouse_ingestive_behaviour)

Sex Differences in Cannabinoid 1 vs. Cannabinoid 2 Receptor-Selective Antagonism of Antinociception Produced by  $\Delta^9$ -Tetrahydrocannabinol and CP55,940 in the Rat (abst – 2012)  
<http://jpet.aspetjournals.org/content/340/3/787.abstract?sid=ae58f15a-06bb-4a81-b850-61bb89fd59f5>

Biphasic Effects of Cannabinoids in Anxiety Responses: CB1 and GABA(B) Receptors in the Balance of GABAergic and Glutamatergic Neurotransmission. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22850737>

Pharmacological effects of cannabinoids on the reference and working memory functions in mice. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22903389>

Interactions between mu opioid receptor agonists and cannabinoid receptor agonists in rhesus monkeys: antinociception, drug discrimination, and drug self-administration. (full – 2013) <http://jpet.aspetjournals.org/content/early/2013/03/27/jpet.113.204099.long>

Novel Insights Into CB1 Cannabinoid Receptor Signaling: A Key Interaction Identified Between EC3-Loop and TMH2. (full – 2013)  
<http://jpet.aspetjournals.org/content/early/2013/02/21/jpet.112.201046.long>

Stabilization of Functional Recombinant Cannabinoid Receptor CB2 in Detergent Micelles and Lipid Bilayers (full – 2013)  
<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0046290>

Multitarget Cannabinoids as Novel Strategy for Alzheimer Disease. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23369066>

Working memory- and anxiety-related behavioral effects of repeated nicotine as a stressor: the role of cannabinoid receptors. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23394117>

Distinct roles of  $\beta$ -arrestin 1 and  $\beta$ -arrestin 2 in ORG27569-induced biased signaling and internalization of the cannabinoid receptor one (CB1) (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23449980>

Changes in cannabinoid CB1 receptor functionality in the female rat prefrontal cortex following a high fat diet. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23454443>

Long-term CB1 receptor blockade enhances vulnerability to anxiogenic-like effects of cannabinoids. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23462228>

Human metabolites of synthetic cannabinoids JWH-018 and JWH-073 bind with high affinity and act as potent agonists at cannabinoid type-2 receptors. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23537664>

Phencyclidine-induced social withdrawal results from deficient stimulation of cannabinoid CB1 receptors: implications for schizophrenia. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23563893>

G-Protein Receptor Kinase 5 Regulates the Cannabinoid Receptor 2-Induced Upregulation of Serotonin 2A Receptors. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23592773>

Cannabinoid receptor activation in the nucleus tractus solitaries produces baroreflex-like responses in the rat. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23675095>

Regulation of cell proliferation by GPR55/cannabinoid receptors using (R,R')-4'-methoxy-1-naphthylfenoterol in rat C6 glioma cell line (abst – 2013)  
<http://www.abstractsonline.com/Plan/ViewAbstract.aspx?sKey=695437a2-7613-4bef-8697-2294df2da859&cKey=18ba6eb0-2c5f-4004-a56f-2d1f450e2ed1&mKey=9b2d28e7-24a0-466f-a3c9-07c21f6e9bc9>

### **CRA-13** CB1 & CB2 agonist

Naphthalen-1-yl-(4-pentyloxynaphthalen-1-yl)methanone: a potent, orally bioavailable human CB1/CB2 dual agonist with antihyperalgesic properties and restricted central nervous system penetration. (abst – 2007)  
<http://www.ncbi.nlm.nih.gov/pubmed/17630726?dopt=Abstract>

Cannabinoid Receptor Agonist 13, a Novel Cannabinoid Agonist: First in Human Pharmacokinetics and Safety (full – 2009)

<http://dmd.aspetjournals.org/content/37/4/827.full>

Intestinal lymphatic transport enhances the post-prandial oral bioavailability of a novel cannabinoid receptor agonist via avoidance of first-pass metabolism. (abst – 2009)

<http://www.ncbi.nlm.nih.gov/pubmed/19280324>

DEXANABINOL - see HU-211

DRONABINOL – a synthetic THC in sesame oil – also see MARINOL

Dronabinol enhancement of appetite in cancer patients. (abst - 1990)

[http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=149](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=149)

Recent clinical experience with dronabinol. (abst - 1991)

[http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=90](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=90)

Dronabinol and prochlorperazine in combination for treatment of cancer chemotherapy-induced nausea and vomiting. (abst - 1991)

[http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=28](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=28)

Dronabinol stimulates appetite and causes weight gain in HIV patients. (abst - 1992)

[http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=20](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=20)

Dronabinol effects on weight in patients with HIV infection. (abst - 1992)

[http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=45](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=45)

Effect of dronabinol on nutritional status in HIV infection. (abst - 1993)

[http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=150](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=150)

Treatment of spasticity in spinal cord injury with dronabinol, a tetrahydrocannabinol derivative. (abst - 1995)

[http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=112](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=112)

Effects of dronabinol on anorexia and disturbed behavior in patients with Alzheimer's disease (abst - 1997)

[http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=59](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=59)

Intractable nausea and vomiting due to gastrointestinal mucosal metastases relieved by tetrahydrocannabinol (dronabinol). (abst - 1997)

[http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=35](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=35)

Abuse potential of dronabinol (Marinol). (abst – 1998)  
<http://www.ncbi.nlm.nih.gov/pubmed/9692381>

Cannabinoids for control of chemotherapy induced nausea and vomiting: quantitative systematic review (full - 2001)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC34325/?tool=pmcentrez>

Preliminary observation with dronabinol in patients with intractable pruritus secondary to cholestatic liver disease. (abst - 2002)  
[http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=116](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=116)

Cannabis and the brain. (full - 2003) <http://brain.oxfordjournals.org/cgi/content/full/126/6/1252>

Cannabinoid rotation in a young woman with chronic cystitis (abst - 2003)  
[http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=115](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=115)

Safety and efficacy of dronabinol in the treatment of agitation in patients with Alzheimer's disease A retrospective chart review (abst - 2003)  
[http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=61](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=61)

On the application of cannabis in paediatrics and epileptology. (abst - 2003)  
<http://www.ncbi.nlm.nih.gov/pubmed/15159680>

Open-label study of dronabinol in the treatment of refractory agitation in Alzheimer's disease: a pilot study (abst - 2003)  
[http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=92](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=92)

Therapeutic potential of cannabinoids in CNS disease. (abst - 2003)  
<http://www.ncbi.nlm.nih.gov/pubmed/12617697>

MARINOL® (Dronabinol) Capsules (monograph - 2004)  
<http://www.fda.gov/ohrms/dockets/dockets/05n0479/05N-0479-emc0004-04.pdf>

Does the cannabinoid dronabinol reduce central pain in multiple sclerosis? Randomised double blind placebo controlled crossover trial (full - 2004)  
<http://www.bmj.com/cgi/content/full/329/7460/253>

A Novel Intervention for the Treatment of Gout in an Elderly Rehabilitation Patient in Whom Conventional Treatment was Ineffective (full – 2004)  
<http://www.medicine.virginia.edu/clinical/departments/physical-medicine-rehabilitation/Gout-page>

Cannabinoid agonists in the treatment of blepharospasm--a case report study. (abst - 2004) <http://www.ncbi.nlm.nih.gov/pubmed/15159681>

Adverse Event Reporting System – Marinol/ Dronabinol (full – 2005)  
<http://medicalmarijuana.procon.org/sourcefiles/marinol.pdf>

US Patent Application 20060160888 - Room-temperature stable dronabinol formulations (full – 2006) <http://www.patentstorm.us/applications/20060160888/fulltext.html>

Dronabinol reduces signs and symptoms of idiopathic intracranial hypertension : a case report (abst + 1st page - 2006) <http://www.liebertonline.com/doi/abs/10.1089/jop.2006.22.68>

Dronabinol for supportive therapy in patients with malignant melanoma and liver metastases. (abst - 2006)  
[http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=180](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=180)

Effect of a cannabinoid agonist on gastrointestinal transit and postprandial satiation in healthy human subjects: a randomized, placebo-controlled study (abst - 2006)  
<http://www.ncbi.nlm.nih.gov/pubmed/16918762>

ACG: Cannabinoid Activator Mellows Out Colon (news - 2006)  
<http://www.medpagetoday.com/MeetingCoverage/ACG/tb/4410>

Cannabis Chemicals May Alleviate Post-Eating Stomach Cramps (news – 2006)  
<http://www.bio-medicine.org/medicine-news/Cannabis-Chemicals-May-Alleviate-Post-Eating-Stomach-Cramps-15219-1/>

Effects of a cannabinoid receptor agonist on colonic motor and sensory functions in humans: a randomized, placebo-controlled study (full - 2007)  
<http://ajpgi.physiology.org/cgi/content/full/293/1/G137>

US Patent Application 20070020193 - Dronabinol compositions and methods for using same (full – 2007) <http://www.patentstorm.us/applications/20070020193/fulltext.html>

Dronabinol an effective appetite stimulant? A pilot study (abst - 2007)  
[http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=188](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=188)

Cannabinoids in the treatment of chemotherapy-induced nausea and vomiting: beyond prevention of acute emesis. (abst – 2007) <http://www.ncbi.nlm.nih.gov/pubmed/17566383>

Efficacy of dronabinol alone and in combination with ondansetron versus ondansetron alone for delayed chemotherapy-induced nausea and vomiting. (abst - 2007)  
[http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=191](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=191)

Dronabinol and marijuana in HIV-positive marijuana smokers: caloric intake, mood, and sleep. (abst - 2007) [http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=190](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=190)

Dronabinol and retinal hemodynamics in humans. (abst - 2007)  
[http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=202](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=202)

Symptomatic treatment of multiple sclerosis using cannabinoids: recent advances. (abst - 2007) <http://www.ncbi.nlm.nih.gov/pubmed/17868014>

Anorexia of aging in long term care: is dronabinol an effective appetite stimulant?--a pilot study. (abst – 2007) <http://www.ncbi.nlm.nih.gov/pubmed/17435963>

Dronabinol and marijuana in HIV-positive marijuana smokers. Caloric intake, mood, and sleep. (abst - 2007) <http://marijuana.researchtoday.net/archive/4/8/1234.htm>

Cannabinoids in the management of difficult to treat pain (full - 2008)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2503660/?tool=pmcentrez>

Current Status of Cannabis Treatment of Multiple Sclerosis with an Illustrative Case Presentation of a Patient with MS, Complex Vocal Tics, Paroxysmal Dystonia, and Marijuana Dependence Treated with Dronabinol. (full - 2008)  
[http://medicalcannabis.com/images/pdf09/indications/ms/deutsch\\_et\\_al\\_2008.pdf](http://medicalcannabis.com/images/pdf09/indications/ms/deutsch_et_al_2008.pdf)

US Patent Application 20080112895 - Aqueous dronabinol formulations (full – 2008)  
<http://www.patentstorm.us/applications/20080112895/fulltext.html>

Improvement in Refractory Obsessive Compulsive Disorder With Dronabinol (letter- 2008) <http://ajp.psychiatryonline.org/cgi/content/full/165/4/536>

Emerging strategies for exploiting cannabinoid receptor agonists as medicines. (full – 2009)  
<http://onlinelibrary.wiley.com/doi/10.1111/j.1476-5381.2008.00048.x/full>

Cluster attacks responsive to recreational cannabis and dronabinol. (abst - 2009)  
<http://www.ncbi.nlm.nih.gov/pubmed/19220500>

Effects of {Delta}9-tetrahydrocannabinol on reward and anxiety in rats exposed to chronic unpredictable stress (abst - 2009)  
[http://www.unboundmedicine.com/medline/ebm/record/19406854/abstract/Effects\\_of\\_%7BDelta%7D9\\_tetrahydrocannabinol\\_on\\_reward\\_and\\_anxiety\\_in\\_rats\\_exposed\\_to\\_chronic\\_unpredictable\\_stress](http://www.unboundmedicine.com/medline/ebm/record/19406854/abstract/Effects_of_%7BDelta%7D9_tetrahydrocannabinol_on_reward_and_anxiety_in_rats_exposed_to_chronic_unpredictable_stress)

Synthetic delta-9-tetrahydrocannabinol (dronabinol) can improve the symptoms of schizophrenia. (abst - 2009)  
<http://www.unboundmedicine.com/medline/ebm/record/19440079/abstract/>

The FDA has written documentation that patients can overdose on Marinol and that it can be lethal (news - 2009)  
<http://www.examiner.com/examiner/x-19678-Cannabis-Revolution-Examiner~y2009m10d23-The-FDA-has-written-documentation-that-patients-can-overdose-on-Marinol-and-that-it-can-be-lethal>

Use of dronabinol (delta-9-THC) in autism: A prospective single-case-study with an early infantile autistic child (full – 2010) [http://www.cannabis-med.org/data/pdf/en\\_2010\\_04\\_1.pdf](http://www.cannabis-med.org/data/pdf/en_2010_04_1.pdf)

Delta9-tetrahydrocannabivarin testing may not have the sensitivity to detect marijuana use among individuals ingesting dronabinol. (full - 2010)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2815025/?tool=pubmed>

Dramatic improvement of refractory Isaacs' syndrome after treatment with dronabinol. (1<sup>st</sup> page – 2010)  
<http://www.deepdyve.com/lp/elsevier/dramatic-improvement-of-refractory-isaacs-syndrome-after-treatment-kuk1Dc3xDe>

Effect of dronabinol on central neuropathic pain after spinal cord injury: a pilot study. (abst – 2010) [http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=313](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=313)

Efficacy and tolerability of high-dose dronabinol maintenance in HIV-positive marijuana smokers: a controlled laboratory study. (abst – 2010)  
[http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=316](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=316)

Science: Dramatic improvement of neuromyotonia (Isaacs' syndrome) with THC in a case report (news – 2010)  
[http://www.cannabis-med.org/english/bulletin/ww\\_en\\_db\\_cannabis\\_artikel.php?id=337](http://www.cannabis-med.org/english/bulletin/ww_en_db_cannabis_artikel.php?id=337)

Room-temperature stable dronabinol formulations - Patent NZ555701 (A) — 2011-05-27 (full – 2011)  
[http://worldwide.espacenet.com/publicationDetails/description?CC=NZ&NR=555701A&KC=A&FT=D&ND=3&date=20110527&DB=EPODOC&locale=en\\_EP](http://worldwide.espacenet.com/publicationDetails/description?CC=NZ&NR=555701A&KC=A&FT=D&ND=3&date=20110527&DB=EPODOC&locale=en_EP)

Dronabinol, a cannabinoid agonist, reduces hair pulling in trichotillomania: a pilot study. (abst – 2011)  
[http://www.unboundmedicine.com/medline/ebm/record/21590520/abstract/Dronabinol\\_a\\_cannabinoid\\_agonist\\_reduces\\_hair\\_pulling\\_in\\_trichotillomania\\_a\\_pilot\\_study](http://www.unboundmedicine.com/medline/ebm/record/21590520/abstract/Dronabinol_a_cannabinoid_agonist_reduces_hair_pulling_in_trichotillomania_a_pilot_study)

Cannabinoids in children (abst – 2011)  
[http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=295](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=295)

Pharmacogenetic Trial of a Cannabinoid Agonist Shows Reduced Fasting Colonic Motility in Patients with Non-Constipated Irritable Bowel Syndrome. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21803011>

Drunk versus drugged: How different are the drivers? (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21925803>

Dronabinol for the treatment of cannabis dependence: a randomized, double-blind, placebo-controlled trial. (abst – 2011)  
[http://www.unboundmedicine.com/medline/ebm/record/21310551/abstract/Dronabinol\\_for\\_the\\_treatment\\_of\\_cannabis\\_dependence\\_a\\_randomized\\_double\\_blind\\_placebo\\_controlled\\_trial](http://www.unboundmedicine.com/medline/ebm/record/21310551/abstract/Dronabinol_for_the_treatment_of_cannabis_dependence_a_randomized_double_blind_placebo_controlled_trial)

What Are Prescription Drugs That Are a Substitute for Marijuana? (news – 2011)  
<http://www.livestrong.com/article/137065-what-are-prescription-drugs-that-are-substitute-marijuana/#ixzz211a1dVQG>

Science: THC effective in trichotillomania symptoms in a pilot study (news – 2011)  
[http://www.cannabis-med.org/english/bulletin/ww\\_en\\_db\\_cannabis\\_artikel.php?id=348](http://www.cannabis-med.org/english/bulletin/ww_en_db_cannabis_artikel.php?id=348)

DRONABINOL capsule [Watson Laboratories, Inc.] (monograph - 2012)  
<http://dailymed.nlm.nih.gov/dailymed/mobile/lookup.cfm?setid=1f1af798-17d5-47d0-b129-21d4aa1eb125>

The Therapeutic Potential of Cannabis and Cannabinoids (full – 2012)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3442177/>

Endocannabinoids in nervous system health and disease: the big picture in a nutshell  
(full – 2012) <http://rstb.royalsocietypublishing.org/content/367/1607/3193.full>

Randomized pharmacodynamic and pharmacogenetic trial of dronabinol effects on colon transit in irritable bowel syndrome-diarrhea. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22288893>

Subjective, cognitive and cardiovascular dose-effect profile of nabilone and dronabinol in marijuana smokers. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22260337>

Genetic Epidemiology and Pharmacogenetics in Irritable Bowel Syndrome.  
(abst - 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22403795>

Heat Exposure of Cannabis sativa Extracts Affects the Pharmacokinetic and Metabolic Profile in Healthy Male Subjects. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22411724>

Cannabinoids in the treatment of chemotherapy-induced nausea and vomiting.  
(abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22491047>

Irritable Bowel Syndrome: Methods, Mechanisms, and Pathophysiology. Genetic epidemiology and pharmacogenetics in irritable bowel syndrome (abst – 2012)  
<http://ajpgi.physiology.org/content/302/10/G1075.abstract?maxtoshow=&hits=25&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=105&sortspec=date&resourcetype=HWCIT>

The dose effects of short-term dronabinol (oral THC) maintenance in daily cannabis users. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22921474>

The therapeutic potential of cannabis and cannabinoids. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/23008748>

Can oral fluid cannabinoid testing monitor medication compliance and/or cannabis smoking during oral THC and oromucosal Sativex administration? (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/23146820>

Effects of dronabinol on morphine-induced dopamine-related behavioral effects in animals (abst – 2012) <http://onlinelibrary.wiley.com/doi/10.1002/syn.21586/abstract>

Can cannabinoid drug used for nausea in chemotherapy relieve sleep apnea?  
(news – 2012)  
<http://medicalxpress.com/news/2012-06-cannabinoid-drug-nausea-chemotherapy-relieve.html>

Proof of concept trial of dronabinol in obstructive sleep apnea. (full – 2013)  
[http://www.frontiersin.org/Sleep\\_Disorders/10.3389/fpsy.2013.00001/full](http://www.frontiersin.org/Sleep_Disorders/10.3389/fpsy.2013.00001/full)

Simultaneous and sensitive LC–MS/MS determination of tetrahydrocannabinol and metabolites in human plasma (abst – 2013)

<http://link.springer.com/article/10.1007/s00216-012-6501-x>

The pharmacologic and clinical effects of medical cannabis. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23386598>

Comparison of the Analgesic Effects of Dronabinol and Smoked Marijuana In Daily Marijuana Smokers. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23609132>

The medical use of cannabis for reducing morbidity and mortality in patients with HIV/AIDS. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23633327>

Science/Human: THC reduces sleep apnoea in small clinical study (news – 2013)  
[http://www.cannabis-med.org/english/bulletin/ww\\_en\\_db\\_cannabis\\_artikel.php?id=392&search\\_pattern=2013#2](http://www.cannabis-med.org/english/bulletin/ww_en_db_cannabis_artikel.php?id=392&search_pattern=2013#2)

### **ELMIRIC ACIDS** - anandamide analogs

The elmiric acids: biologically active anandamide analogs (full - 2007)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2621443/?tool=pmcentrez>

Potential anti-inflammatory actions of the elmiric (lipoamino) acids (full - 2007)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1896102/?tool=pmcentrez>

Cannabinoids, Endocannabinoids, and Related Analogs in Inflammation (full - 2009)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2664885/?tool=pubmed>

ETS-2101- see HU-211

### **GP1a** - CB2 agonist

Immunoregulation of a CB2 receptor agonist in a murine model of neuroAIDS.  
(full – 2010) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3109320/>

Distribution and function of the endocannabinoid system in the rat and human bladder.  
(abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/23081739>

Activation of Cannabinoid Receptor 2 Inhibits Experimental Cystitis. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23515618>

Attenuation of HIV-1 replication in macrophages by cannabinoid receptor 2 agonists.  
(abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23463725>

### **GW405833** – CB2 agonist

Cannabinoid Receptor 2 Protects against Acute Experimental Sepsis in Mice.  
(full – 2013) <http://www.hindawi.com/journals/mi/2013/741303/>

Endocannabinoid signaling in the gut mediates preference for dietary unsaturated fats.  
(abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23463697>

Effects of the cannabinoid 2 receptor-selective agonist GW405833 in assays of acute pain-stimulated and paindepressed behavior in rats (abst – 2013)  
[http://www.fasebj.org/cgi/content/meeting\\_abstract/27/1\\_MeetingAbstracts/886.9?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad](http://www.fasebj.org/cgi/content/meeting_abstract/27/1_MeetingAbstracts/886.9?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad)

### **HEXAHYDROCANNABINOLS** - synthetic cannabinoid derivatives

Hexahydrocannabinols, novel synthetic cannabinoid derivatives, suppress the tumor growth by inhibiting the VEGF secretion and angiogenesis (abst - 2009)  
[http://www.fasebj.org/cgi/content/meeting\\_abstract/23/1\\_MeetingAbstracts/761.3?maxtoshow=&hits=10&RESULTFORMAT=&fulltext=cannabis&andorexactfulltext=and&searchid=1&FIRSTINDEX=0&sortspec=relevance&resourcetype=HWCIT](http://www.fasebj.org/cgi/content/meeting_abstract/23/1_MeetingAbstracts/761.3?maxtoshow=&hits=10&RESULTFORMAT=&fulltext=cannabis&andorexactfulltext=and&searchid=1&FIRSTINDEX=0&sortspec=relevance&resourcetype=HWCIT)

Involvement of NSAID-activated gene-1 in a novel synthetic hexahydrocannabinol analogue-induced growth inhibition and apoptosis of colon cancer cells (abst - 2010)  
[http://www.fasebj.org/cgi/content/meeting\\_abstract/24/1\\_MeetingAbstracts/965.8?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=Hexahydrocannabinol&searchid=1&FIRSTINDEX=0&resourcetype=HWCIT](http://www.fasebj.org/cgi/content/meeting_abstract/24/1_MeetingAbstracts/965.8?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=Hexahydrocannabinol&searchid=1&FIRSTINDEX=0&resourcetype=HWCIT)

Induction of p53-independent apoptosis by a novel synthetic hexahydrocannabinol analog is mediated via Sp1-dependent NSAID-activated gene-1 in colon cancer cells (abst - 2010)  
[http://www.sciencedirect.com/science?\\_ob=ArticleURL&\\_udi=B6T4P-4YM7FF0-2&\\_user=10&\\_coverDate=07%2F01%2F2010&\\_rdoc=1&\\_fmt=high&\\_orig=search&\\_sort=d&\\_docanchor=&\\_view=c&\\_searchStrId=1313682160&\\_rerunOrigin=scholar.google&\\_acct=C000050221&\\_version=1&\\_urlVersion=0&\\_userid=10&md5=6f222e32968fcf27444674d5217dcecb](http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6T4P-4YM7FF0-2&_user=10&_coverDate=07%2F01%2F2010&_rdoc=1&_fmt=high&_orig=search&_sort=d&_docanchor=&_view=c&_searchStrId=1313682160&_rerunOrigin=scholar.google&_acct=C000050221&_version=1&_urlVersion=0&_userid=10&md5=6f222e32968fcf27444674d5217dcecb)

Novel hexahydrocannabinol analogs as potential anti-cancer agents inhibit cell proliferation and tumor angiogenesis. (abst – 2011)

<http://www.ncbi.nlm.nih.gov/pubmed/20950604>

Anti-tumor activity of the novel hexahydrocannabinol analog LYR-8 in Human colorectal tumor xenograft is mediated through the inhibition of Akt and hypoxia-inducible factor-1 $\alpha$  activation. (full – 2012)

[https://www.jstage.jst.go.jp/article/bpb/35/6/35\\_b12-00020/\\_pdf](https://www.jstage.jst.go.jp/article/bpb/35/6/35_b12-00020/_pdf)

### **HU-210-** CB 1 & CB 2 agonist

Learning impairment produced in rats by the cannabinoid agonist HU 210 in a water-maze task. (abst – 1999) <http://www.ncbi.nlm.nih.gov/pubmed/10548271>

Suppression of Nerve Growth Factor Trk Receptors and Prolactin Receptors by Endocannabinoids Leads to Inhibition of Human Breast and Prostate Cancer Cell Proliferation (full - 2000) <http://endo.endojournals.org/cgi/content/full/141/1/118>

Effects of cannabinoid receptor agonists on neuronally-evoked contractions of urinary bladder tissues isolated from rat, mouse, pig, dog, monkey and human (full - 2000)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1571997/?tool=pmcentrez>

Involvement of central and peripheral cannabinoid receptors in the regulation of heart resistance to arrhythmogenic effects of epinephrine. (abst - 2000)

[http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Retrieve&list\\_uids=11182823&dopt=abstractplus](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Retrieve&list_uids=11182823&dopt=abstractplus)

Inhibitory effects of the cannabinoid agonist HU 210 on rat sexual behaviour. (abst – 2000) <http://www.ncbi.nlm.nih.gov/pubmed/10913795>

Targeting CB2 cannabinoid receptors as a novel therapy to treat malignant lymphoblastic disease (full - 2002)

<http://bloodjournal.hematologylibrary.org/cgi/content/full/100/2/627?ijkey=eb71d6d7a06f311440761cfac6a7d081bcc2771d>

Influence of the CB1 receptor antagonist, AM 251, on the regional haemodynamic effects of WIN-55212-2 or HU 210 in conscious rats (full - 2002)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1573379/?tool=pmcentrez>

Activation of cannabinoid receptors decreases the area of ischemic myocardial necrosis. (abst - 2002)

[http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Retrieve&list\\_uids=12428278&dopt=abstractplus](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Retrieve&list_uids=12428278&dopt=abstractplus)

Increase of the heart arrhythmogenic resistance and decrease of the myocardial necrosis zone during activation of cannabinoid receptors (abst – 2002)  
<http://www.ncbi.nlm.nih.gov/pubmed/12136723>

The cannabinoids R(-)-7-hydroxy-delta-6-tetra-hydrocannabinol-dimethylheptyl (HU-210), 2-O-arachidonoylglycerylether (HU-310) and arachidonyl-2-chloroethylamide (ACEA) increase isoflurane provoked sleep duration by activation of cannabinoid 1 (CB1)-receptors in mice. (abst – 2002) <http://www.ncbi.nlm.nih.gov/pubmed/12095655>

Inhibition of tumor angiogenesis by cannabinoids (full - 2003)  
<http://www.fasebj.org/cgi/reprint/02-0795fjev1?maxtoshow=&hits=10&RESULTFORMAT=&fulltext=cannabis&andorexactfulltext=and&searchid=1&FIRSTINDEX=20&sortspec=relevance&resourcetype=HWCIT>

CB1 cannabinoid receptor antagonism promotes remodeling and cannabinoid treatment prevents endothelial dysfunction and hypotension in rats with myocardial infarction (full - 2003) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1573770/?tool=pmcentrez>

Drug-induced hypothermia reduces ischemic damage: effects of the cannabinoid HU-210. (full - 2003) <http://stroke.ahajournals.org/cgi/reprint/34/8/2000>

Histamine induced responses are attenuated by a cannabinoid receptor agonist in human skin. (abst – 2003) <http://www.ncbi.nlm.nih.gov/pubmed/12835895>

The endogenous cannabinoid system protects against colonic inflammation (full - 2004)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC385396/?tool=pmcentrez>

Cannabinoids spell relief in colon inflammation (news – 2004)  
[http://www.eurekalert.org/pub\\_releases/2004-05/m-csr050704.php](http://www.eurekalert.org/pub_releases/2004-05/m-csr050704.php)

Direct cerebrovascular effects of CB1 receptor activation by the synthetic endocannabinoid HU-210 in vivo (full - 2005)  
<http://www.nature.com/jcbfm/journal/v25/n1s/full/9591524.0581a.html>

Cannabinoids promote embryonic and adult hippocampus neurogenesis and produce anxiolytic- and antidepressant-like effects (full - 2005)  
<http://www.jci.org/articles/view/25509/version/1>

Cannabinoids provide neuroprotection against 6-hydroxydopamine toxicity in vivo and in vitro: relevance to Parkinson's disease. (abst - 2005)  
<http://www.ncbi.nlm.nih.gov/pubmed/15837565?dopt=Abstract>

The analgesic activity of paracetamol is prevented by the blockade of cannabinoid CB1 receptors (abst – 2005) <http://www.sciencedirect.com/science/article/pii/S0014299905013178>

Is cannabis good for your brain? (news - 2005)  
<http://arstechnica.com/science/news/2005/10/1529.ars>

Marijuana May Spur New Brain Cells (news - 2005)

<http://www.treatingyourself.com/vbulletin/showthread.php?t=5921>

Study Shows Marijuana Promotes Neuron Growth (news - 2005)

[http://english.ohmynews.com/articleview/article\\_view.asp?menu=c10400&no=253377&rel\\_no=1](http://english.ohmynews.com/articleview/article_view.asp?menu=c10400&no=253377&rel_no=1)

Marijuana May Grow Neurons in the Brain (news - 2005)

<http://www.medpagetoday.com/Psychiatry/AnxietyStress/1934>

Surprising Brain Effects From Pot-Like Drug (news – 2005)

<http://www.webmd.com/mental-health/news/20051013/surprising-brain-effects-from-pot-like-drug>

Marijuana might cause new cell growth in the brain (news – 2005)

(may need registration)

<http://www.newscientist.com/article/dn8155>

Actions of the FAAH inhibitor URB597 in neuropathic and inflammatory chronic pain models (full - 2006)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1751298/?tool=pmcentrez>

Arthritis and cannabinoids: HU-210 and Win-55,212-2 prevent IL-1alpha-induced matrix degradation in bovine articular chondrocytes in-vitro. (abst - 2006)

<http://www.ncbi.nlm.nih.gov/pubmed/16536902>

Cannabinoids Ameliorate Pain and Reduce Disease Pathology in Cerulein-Induced Acute Pancreatitis (full - 2007)

<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2268094>

Increased endocannabinoid levels reduce the development of precancerous lesions in the mouse colon (full - 2007)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2755791/?tool=pmcentrez>

Cannabinoids Induce Glioma Stem-like Cell Differentiation and Inhibit Gliomagenesis (full - 2007)

<http://www.jbc.org/content/282/9/6854.long>

The synthetic cannabinoid HU210 induces spatial memory deficits and suppresses hippocampal firing rate in rats (full – 2007)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2013991/>

The synthetic cannabinoid HU-210 attenuates neural damage in diabetic mice and hyperglycemic pheochromocytoma PC12 cells (abst - 2007)

<http://lib.bioinfo.pl/pmid:17604177>

The synthetic cannabinoids attenuate allodynia and hyperalgesia in a rat model of trigeminal neuropathic pain. (abst – 2007)

<http://www.ncbi.nlm.nih.gov/pubmed/17572451>

Excitotoxicity in a chronic model of multiple sclerosis: Neuroprotective effects of cannabinoids through CB1 and CB2 receptor activation. (abst – 2007)

<http://www.ncbi.nlm.nih.gov/pubmed/17229577>

Repeated Cannabinoid Injections into the Rat Periaqueductal Gray Enhances Subsequent Morphine Antinociception (full - 2008)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2743428/?tool=pmcentrez>

Cannabinoid receptor 1 is a potential drug target for treatment of translocation-positive rhabdomyosarcoma (full - 2009) <http://mct.aacrjournals.org/content/8/7/1838.full>

Lipid rafts regulate 2-arachidonoylglycerol metabolism and physiological activity in the striatum (full – 2009) <http://onlinelibrary.wiley.com/doi/10.1111/j.1471-4159.2009.05948.x/full>

Spice drugs: cannabinoids as a new designer drugs. (abst - 2009)

[http://www.unboundmedicine.com/medline/ebm/record/19718488/abstract/%5BSpice\\_drugs:\\_cannabinoids\\_as\\_a\\_new\\_designer\\_drugs\\_%5D](http://www.unboundmedicine.com/medline/ebm/record/19718488/abstract/%5BSpice_drugs:_cannabinoids_as_a_new_designer_drugs_%5D)

Involvement of cannabinoid-1 and cannabinoid-2 receptors in septic ileus. (full – 2010)

<http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2982.2009.01419.x/pdf>

Antitumorigenic Effects of Cannabinoids beyond Apoptosis (full - 2010)

<http://jpet.aspetjournals.org/content/332/2/336.full?sid=af53ea87-ab4b-426e-9c7e-8f750e9c4a17>

Regulation of nausea and vomiting by cannabinoids (abst - 2010)

<http://onlinelibrary.wiley.com/doi/10.1111/j.1476-5381.2010.01176.x/abstract;jsessionid=56CED9CE51B025C161AA2E821BEC94ED.d01t01>

Now, There's a Test for That -- Norchem's "Fake Marijuana" Test Reveals Significantly Increased Abuse of Spice/K2 (news - 2010)

<http://www.marketwire.com/press-release/Now-Theres-Test-That-Norchems-Fake-Marijuana-Test-Reveals-Significantly-Increased-Abuse-1356247.htm>

The potential for clinical use of cannabinoids in treatment of cardiovascular diseases.

(full – 2011) <http://onlinelibrary.wiley.com/doi/10.1111/j.1755-5922.2010.00233.x/pdf>

Beyond THC: The New Generation of Cannabinoid Designer Drugs. (full – 2011)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3187647/?tool=pubmed>

Investigating a not-so-natural high. (full – 2011)

<http://pubs.acs.org/doi/full/10.1021/ac900564u>

Cannabinoid Receptor Type 1 Protects Nigrostriatal Dopaminergic Neurons against MPTP Neurotoxicity by Inhibiting Microglial Activation. (full – 2011)

<http://www.jimmunol.org/content/187/12/6508.full?sid=c3422dd2-7ad0-42e4-a862-845dc670f7cf>

Pharmacological activation/inhibition of the cannabinoid system affects alcohol withdrawal-induced neuronal hypersensitivity to excitotoxic insults. (abst – 2011)

<http://www.ncbi.nlm.nih.gov/pubmed/21886913>

Regulation of nausea and vomiting by cannabinoids. (abst – 2011)

[http://www.unboundmedicine.com/medline/ebm/record/21175589/abstract/Regulation\\_of\\_nausea\\_and\\_vomiting\\_by\\_cannabinoids](http://www.unboundmedicine.com/medline/ebm/record/21175589/abstract/Regulation_of_nausea_and_vomiting_by_cannabinoids)

The effects of cannabinoid drugs on abnormal involuntary movements in dyskinetic and non-dyskinetic 6-hydroxydopamine lesioned rats. (abst – 2011)  
[http://www.unboundmedicine.com/medline/ebm/record/20888328/abstract/The\\_effects\\_of\\_cannabinoid\\_drugs\\_on\\_abnormal\\_involuntary\\_movements\\_in\\_dyskinetic\\_and\\_non\\_dyskinetic\\_6\\_hydroxydopamine\\_lesioned\\_rats](http://www.unboundmedicine.com/medline/ebm/record/20888328/abstract/The_effects_of_cannabinoid_drugs_on_abnormal_involuntary_movements_in_dyskinetic_and_non_dyskinetic_6_hydroxydopamine_lesioned_rats)

Increased brain metabolism after acute administration of the synthetic cannabinoid HU210: A small animal PET imaging study with (18)F-FDG. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/22155282>

Cannabinoid HU210 Protects Isolated Rat Stomach against Impairment Caused by Serum of Rats with Experimental Acute Pancreatitis. (full - 2012)  
<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0052921>

Contrasting effects of different cannabinoid receptor ligands on mouse ingestive behavior (abst – 2012)  
[http://www.unboundmedicine.com/medline/ebm/record/22772336/abstract/Contrasting\\_effects\\_of\\_different\\_cannabinoid\\_receptor\\_ligands\\_on\\_mouse\\_ingestive\\_behaviour](http://www.unboundmedicine.com/medline/ebm/record/22772336/abstract/Contrasting_effects_of_different_cannabinoid_receptor_ligands_on_mouse_ingestive_behaviour)

Long-term use of HU210 adversely affects spermatogenesis in rats by modulating the endocannabinoid system. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22435752>

Simultaneous analysis of several synthetic cannabinoids, THC, CBD and CBN, in hair by ultra-high performance liquid chromatography tandem mass spectrometry. Method validation and application to real samples. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22576873>

The spice in France: mixed herbs containing synthetic cannabinoids. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22796613>

Analgesic effects of cannabinoids on central pain syndrome (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22359935>

Synthetic Cannabinoid and Cathinone Use Among US Soldiers. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/23007932>

The periaqueductal gray contributes to bidirectional enhancement of antinociception between morphine and cannabinoids. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/23063785>

Activation of Cannabinoid Receptor 2 reduces inflammation in acute experimental pancreatitis via intra-acinar activation of p38 and MK2-dependent mechanisms. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/23139224>

The anti-nausea effects of CB(1) agonists are mediated by an action at the visceral insular cortex. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22671779>

Increased brain metabolism after acute administration of the synthetic cannabinoid HU210: a small animal PET imaging study with 18F-FDG. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22155282>

Long-term use of HU210 adversely affects spermatogenesis in rats by modulating the endocannabinoid system (abst – 2012)  
<http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2605.2012.01259.x/abstract>

Getting up to speed with the public health and regulatory challenges posed by new psychoactive substances in the information age (editorial – 2013)  
<http://onlinelibrary.wiley.com/doi/10.1111/add.12287/full>

Synthetic Cannabinoids -The Challenges of Testing for Designer Drugs (article – 2013)  
<http://www.aacc.org/publications/cln/2013/february/Pages/Cannabinoids.aspx?PassThru=ok&PersonID=206339#>

Neuron-type specific cannabinoid-mediated G protein signalling in mouse hippocampus. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23289830>

Functional Residues Essential for the Activation of the CB1 Cannabinoid Receptor. (abst - 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23332708>

Effects of cannabinoids and related fatty acids upon the viability of P19 embryonal carcinoma cells. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23552853>

Complex Interplay between the Cannabinoid CB1 Receptor and Corticotropin-Releasing Hormone in the Regulation of Appetite, Food Intake and Energy Expenditure (abst – 2013)  
[http://edrv.endojournals.org/cgi/content/meeting\\_abstract/34/03\\_MeetingAbstracts/MON-671?sid=89628f3e-b2f1-448c-b0df-984f390dff2](http://edrv.endojournals.org/cgi/content/meeting_abstract/34/03_MeetingAbstracts/MON-671?sid=89628f3e-b2f1-448c-b0df-984f390dff2)

### **HU-211 / DEXANABINOL/ ETS-2101** - CB 2 agonist

A nonpsychotropic cannabinoid, HU-211, has cerebroprotective effects after closed head injury in the rat. (abst – 1993) <http://www.ncbi.nlm.nih.gov/pubmed/8411215>

HU-211, a Novel Noncompetitive N-Methyl-D-Aspartate Antagonist, Improves Neurological Deficit and Reduces Infarct Volume After Reversible Focal Cerebral Ischemia in the Rat (full - 1995) <http://stroke.ahajournals.org/cgi/content/full/26/12/2313>

45Ca accumulation in rat brain after closed head injury; attenuation by the novel neuroprotective agent HU-211. (abst – 1995) <http://www.ncbi.nlm.nih.gov/pubmed/7583233>

Development of HU-211 as a neuroprotectant for ischemic brain damage. (abst – 1995)  
<http://www.ncbi.nlm.nih.gov/pubmed/7477742>

A novel nonpsychotropic cannabinoid, HU-211, in the treatment of experimental pneumococcal meningitis. (full - 1996) <http://jid.oxfordjournals.org/content/173/3/735.long>

HU-211, a nonpsychotropic cannabinoid, produces short- and long-term neuroprotection after optic nerve axotomy. (abst – 1996) <http://www.ncbi.nlm.nih.gov/pubmed/8714863>

Protection Against Septic Shock and Suppression of Tumor Necrosis Factor  $\alpha$  and Nitric Oxide Production by Dexanabinol (HU-211), a Nonpsychotropic Cannabinoid (full - 1997) <http://jpet.aspetjournals.org/content/283/2/918.full>

Cytokine production in the brain following closed head injury: dexanabinol (HU-211) is a novel TNF-alpha inhibitor and an effective neuroprotectant. (abst – 1997)  
<http://www.ncbi.nlm.nih.gov/pubmed/9042110>

Dexanabinol; a novel neuroprotective drug in experimental focal cerebral ischemia. (abst – 1999) <http://www.ncbi.nlm.nih.gov/pubmed/10202976>

Cannabinoids in clinical practice. (abst - 2000)  
<http://www.ncbi.nlm.nih.gov/pubmed/11152013>

Dexanabinol (HU-211) in the treatment of severe closed head injury: a randomized, placebo-controlled, phase II clinical trial. (abst - 2002)  
<http://www.ncbi.nlm.nih.gov/pubmed/11990913?dopt=Abstract>

Dexanabinol: a novel cannabinoid with neuroprotective properties. (abst – 2003)  
<http://www.ncbi.nlm.nih.gov/pubmed/14534855>

Dexanabinol (HU-211) has a beneficial effect on axonal sprouting and survival after rat optic nerve crush injury. (abst – 2003) <http://www.ncbi.nlm.nih.gov/pubmed/12535983>

Therapeutic potential of cannabinoids in CNS disease. (abst - 2003)  
<http://www.ncbi.nlm.nih.gov/pubmed/12617697>

Dexanabinol: dexanabinone, HU 211, PA 50211, PRS 211007, sinnabidol. (abst - 2003) <http://www.ncbi.nlm.nih.gov/pubmed/12757406>

Dexanabinol prevents development of vasospasm in the rat femoral artery model. (abst – 2008) <http://www.ncbi.nlm.nih.gov/pubmed/18256864>

Latest Studies Imply That Cannabinoids Are Protective Against Alcohol-Induced Brain Damage (news – 2011) <http://networkedblogs.com/mFuuX>

Cannabinoid May Treat Brain Cancer (news – 2012)  
[http://www.sciencedaily.com/releases/2012/09/120925142557.htm?utm\\_source=feedburner&utm\\_medium=feed&utm\\_campaign=Feed%3A+sciencedaily+%28ScienceDaily%3A+Latest+Science+News%29](http://www.sciencedaily.com/releases/2012/09/120925142557.htm?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+sciencedaily+%28ScienceDaily%3A+Latest+Science+News%29)

Clinical trial evaluates synthetic cannabinoid as brain cancer treatment (news – 2012)  
<http://medicalxpress.com/news/2012-09-clinical-trial-synthetic-cannabinoid-brain.html>

Cannabinoid May Treat Brain Cancer (news – 2012)  
<http://www.sciencedaily.com/releases/2012/09/120925142557.htm>

Effects of cannabinoids and related fatty acids upon the viability of P19 embryonal carcinoma cells. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23552853>

### **HU-308** - CB2 agonist

HU-308: a specific agonist for CB(2), a peripheral cannabinoid receptor. (full - 1999)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC24419/?tool=pubmed>

Non-psychoactive CB2 cannabinoid agonists stimulate neural progenitor proliferation (full - 2005)  
<http://www.fasebj.org/cgi/content/full/20/13/2405?maxtoshow=&hits=10&RESULTFORMAT=&fulltext=cannabis&andorexactfulltext=and&searchid=1&FIRSTINDEX=0&sortspec=relevance&resourcetype=HWCIT>

Peripheral cannabinoid receptor, CB2, regulates bone mass (full - 2005)  
<http://www.pnas.org/content/103/3/696.full>

Cannabinoid CB2 receptor agonist activity in the hindpaw incision model of postoperative pain. (abst - 2005) <http://www.ncbi.nlm.nih.gov/pubmed/16316653>

Non-psychoactive CB2 cannabinoid agonists stimulate neural progenitor proliferation (full – 2006) <http://www.fasebj.org/content/20/13/2405.long>

Activation of CB2 receptor attenuates bone loss in osteoporosis (news - 2006)  
[http://www.cannabis-med.org/english/bulletin/ww\\_en\\_db\\_cannabis\\_artikel.php?id=210#2](http://www.cannabis-med.org/english/bulletin/ww_en_db_cannabis_artikel.php?id=210#2)

Cannabinoid-2 receptor agonist HU-308 protects against hepatic ischemia/reperfusion injury by attenuating oxidative stress, inflammatory response, and apoptosis (full - 2007) <http://www.jleukbio.org/cgi/content/full/82/6/1382>

Endocannabinoids, cannabinoid receptors and inflammatory stress: an interview with Dr. Pál Pacher (interview - 2007)  
<http://www.jleukbio.org/cgi/content/full/82/6/1390?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=880&resourcetype=HWCIT>

Regulation of Bone Mass, Osteoclast Function, and Ovariectomy-Induced Bone Loss by the Type 2 Cannabinoid Receptor (full - 2008)

<http://endo.endojournals.org/cgi/content/full/149/11/5619?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=240&resourcetype=HWCIT>

Gadolinium-HU-308-incorporated micelles. (full – 2011)  
<http://www.ncbi.nlm.nih.gov/books/NBK54067/pdf/CB2R-Gd-Micelles.pdf>

Is lipid signaling through cannabinoid 2 receptors part of a protective system?  
(full – 2011) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3062638/>

CB2 Cannabinoid Receptors Promote Neural Progenitor Cell Proliferation via mTORC1 Signaling (abst – 2011)  
<http://www.jbc.org/content/287/2/1198.abstract?sid=2c3b88ec-b6e6-4245-a171-2e24c17b5e8b>

Cannabinoid-2 Receptor Activation Protects against Infarct and Ischemia/Reperfusion Heart Injury. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/22113346>

Cannabinoid receptor 2 activation reduces intestinal leukocyte recruitment and systemic inflammatory mediator release in acute experimental sepsis (full – 2012)  
<http://ccforum.com/content/16/2/R47>

Cannabinoids ameliorate disease progression in a model of multiple sclerosis in mice, acting preferentially through CB(1) receptor-mediated anti-inflammatory effects.  
(abst - 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22342378>

Effect of omega-3 polyunsaturated fatty acids on the endocannabinoid system in osteoblast-like cells and muscle (abst – 2012)  
<http://docs.lib.purdue.edu/dissertations/AAI3444794/>

### **HU-310** –CB 1 agonist

The cannabinoids R(-)-7-hydroxy-delta-6-tetra-hydrocannabinol-dimethylheptyl (HU-210), 2-O-arachidonoylglycerylether (HU-310) and arachidonyl-2-chloroethylamide (ACEA) increase isoflurane provoked sleep duration by activation of cannabinoids 1 (CB1)-receptors in mice. (abst – 2002) <http://www.ncbi.nlm.nih.gov/pubmed/12095655>

### **HU-320** -

A novel synthetic, nonpsychoactive cannabinoid acid (HU-320) with antiinflammatory properties in murine collagen-induced arthritis. (full - 2004)  
<http://onlinelibrary.wiley.com/doi/10.1002/art.20050/full>

HU-239- see Ajulemic Acid

**HU-331** -

A cannabinoid quinone inhibits angiogenesis by targeting vascular endothelial cells.  
(full - 2006) <http://molpharm.aspetjournals.org/content/70/1/51.long>

A Cannabinoid Anticancer Quinone, HU-331, Is More Potent and Less Cardiotoxic Than Doxorubicin: A Comparative in Vivo Study (full - 2007)  
<http://jpet.aspetjournals.org/content/322/2/646.full>

HU-331, a novel cannabinoid-based anticancer topoisomerase II inhibitor (full - 2007)  
<http://mct.aacrjournals.org/content/6/1/173.long>

HU-331: a cannabinoid quinone, with uncommon cytotoxic properties and low toxicity.  
(abst - 2007) <http://www.ncbi.nlm.nih.gov/pubmed/17714026>

Antitumorigenic Effects of Cannabinoids beyond Apoptosis (full - 2010)  
<http://jpet.aspetjournals.org/content/332/2/336.full?sid=af53ea87-ab4b-426e-9c7e-8f750e9c4a17>

**HU-910** – CB2 agonist

A new cannabinoid 2 receptor agonist HU-910 attenuates oxidative stress, inflammation, and cell death associated with hepatic ischemia/reperfusion injury. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21449982>

**JD5037** - CB1 agonist with limited brain penetration

New Drug Could Help Maintain Long-Term Weight Loss (news – 2012)  
<http://www.sciencedaily.com/releases/2012/07/120726122116.htm>

**JWH-015** – CB2 & GPR-55 agonist, mildly activates CB1 receptors

Effects of cannabinoid receptor agonists on neuronally-evoked contractions of urinary bladder tissues isolated from rat, mouse, pig, dog, monkey and human (full - 2000)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1571997/?tool=pmcentrez>

Targeting CB2 cannabinoid receptors as a novel therapy to treat malignant lymphoblastic disease (full - 2002)  
<http://bloodjournal.hematologylibrary.org/cgi/content/full/100/2/627?ijkey=eb71d6d7a06f311440761cfac6a7d081bcc2771d>

Stimulation of cannabinoid receptor 2 (CB2) suppresses microglial activation (full - 2005) <http://www.jneuroinflammation.com/content/2/1/29>

CB2 cannabinoid receptors in trabecular meshwork cells mediate JWH015-induced enhancement of aqueous humor outflow facility. (full - 2005)  
<http://www.iovs.org/content/46/6/1988.long>

Avoidance of Aβ<sub>25-35</sub> / (H<sub>2</sub>O<sub>2</sub>) -induced apoptosis in lymphocytes by the cannabinoid agonists CP55,940 and JWH-015 via receptor-independent and PI3K-dependent mechanisms: role of NF-κB and p53. (abst – 2005)  
<http://www.ncbi.nlm.nih.gov/pubmed/17017986>

Chemical modification of the naphthoyl 3-position of JWH-015: In search of a fluorescent probe to the cannabinoid CB2 receptor (abst – 2005)  
<http://www.sciencedirect.com/science/article/pii/S0960894X05006803>

CB2 cannabinoid receptor agonist, JWH-015 triggers apoptosis in immune cells: Potential role for CB2 selective ligands as immunosuppressive agents (full – 2006)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1864948/>

In vivo effects of CB2 receptor-selective cannabinoids on the vasculature of normal and arthritic rat knee joints (full - 2007)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2219539/?tool=pmcentrez>

Potential role for CB2 selective ligands as immunosuppressive agents (full - 2007)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1864948/?tool=pmcentrez>

Opposing control of cannabinoid receptor stimulation on amyloid-beta-induced reactive gliosis: in vitro and in vivo evidence. (full - 2007)  
<http://jpet.aspetjournals.org/content/322/3/1144.long>

Spinal cannabinoid receptor type 2 activation reduces hypersensitivity and spinal cord glial activation after paw incision. (full - 2007)  
<http://journals.lww.com/anesthesiology/pages/articleviewer.aspx?year=2007&issue=04000&article=00021&type=abstract>

CB2 cannabinoid receptor agonist JWH-015 modulates human monocyte migration through defined intracellular signaling pathways. (full – 2008)  
<http://ajpheart.physiology.org/content/294/3/H1145.long>

Behavioral effects of CB2 cannabinoid receptor activation and its influence on food and alcohol consumption. (abst - 2008) <http://www.ncbi.nlm.nih.gov/pubmed/18991890>

Presence and regulation of cannabinoid receptors in human retinal pigment epithelial cells. (full – 2009) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2697670/?tool=pubmed>

Inhibition of human tumour prostate PC-3 cell growth by cannabinoids R(+)-Methanandamide and JWH-015: Involvement of CB2 (full - 2009)  
<http://www.nature.com/bjc/journal/v101/n6/full/6605248a.html>

The activation of cannabinoid CB2 receptors stimulates in situ and in vitro beta-amyloid removal by human macrophages. (abst - 2009)  
[http://www.ncbi.nlm.nih.gov/pubmed/19505450?itool=EntrezSystem2.PEntrez.Pubmed.Pubmed\\_ResultsPanel.Pubmed\\_RVDocSum&ordinalpos=18](http://www.ncbi.nlm.nih.gov/pubmed/19505450?itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum&ordinalpos=18)

Protective effects of the synthetic cannabinoids CP55,940 and JWH-015 on rat brain mitochondria upon paraquat exposure. (abst – 2010)  
<http://www.ncbi.nlm.nih.gov/pubmed/20514518>

Now, There's a Test for That -- Norchem's "Fake Marijuana" Test Reveals Significantly Increased Abuse of Spice/K2 (news - 2010)  
<http://www.marketwire.com/press-release/Now-Theres-Test-That-Norchems-Fake-Marijuana-Test-Reveals-Significantly-Increased-Abuse-1356247.htm>

Crosstalk between Chemokine Receptor CXCR4 and Cannabinoid Receptor CB(2) in Modulating Breast Cancer Growth and Invasion. (full – 2011)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3168464/?tool=pubmed>

Marijuana-based Drugs: Innovative Therapeutics or Designer Drugs of Abuse? (full – 2011) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3139381/?tool=pubmed>

The Antinociceptive Effects of JWH-015 in Chronic Inflammatory Pain Are Produced by Nitric Oxide-cGMP-PKG-KATP Pathway Activation Mediated by Opioids. (full – 2011) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3198780/?tool=pubmed>

Beyond THC: The New Generation of Cannabinoid Designer Drugs. (full – 2011)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3187647/?tool=pubmed>

Cannabinoids and bone: endocannabinoids modulate human osteoclast function in vitro (abst – 2011) <http://onlinelibrary.wiley.com/doi/10.1111/j.1476-5381.2011.01519.x/abstract>

Intrathecal Administration of the Cannabinoid 2 Receptor Agonist JWH015 Can Attenuate Cancer Pain and Decrease mRNA Expression of the 2B Subunit of N-Methyl-d-Aspartic Acid (abst – 2011)

<http://www.anesthesia-analgesia.org/content/early/2011/04/25/ANE.0b013e31821d1062.abstract?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=80&sortspec=date&resourceype=HWCIT>

Latest blood test detects 12 popular synthetic cannabinoids in "fake pot". (news – 2011)  
<http://www.thefreelibrary.com/Latest+blood+test+detects+12+popular+synthetic+cannabinoids+in+%22fake+pot...-a0261876557>

Chemicals Used in "Spice" and "K2" Type Products Now Under Federal Control and Regulation (news – 2011) <http://www.justice.gov/dea/pubs/pressrel/pr030111.html>

Disease modification of breast cancer-induced bone remodeling by cannabinoid 2 receptor agonists. (full – 2012) <http://onlinelibrary.wiley.com/doi/10.1002/jbmr.1732/full>

GPR18 in microglia: implications for the CNS and endocannabinoid system signaling (full – 2012) <http://onlinelibrary.wiley.com/doi/10.1111/j.1476-5381.2012.02019.x/full>

Contrasting protective effects of cannabinoids against oxidative stress and amyloid- $\beta$  evoked neurotoxicity in vitro. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22233683>

Cannabinoids and muscular pain. Effectiveness of the local administration in rat. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22354705>

Cannabinoid receptor 2 agonist ameliorates mesenteric angiogenesis and portosystemic collaterals in cirrhotic rats. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22290687>

Evidence for the Putative Cannabinoid Receptor (GPR55)-Mediated Inhibitory Effects on Intestinal Contractility in Mice. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22759743>

The CB(2)-preferring agonist JWH015 also potently and efficaciously activates CB(1) in autaptic hippocampal neurons. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22921769>

Acute toxicity due to the confirmed consumption of synthetic cannabinoids: Clinical and laboratory findings. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22971158>

Chronic activation of cannabinoid receptors in vitro does not compromise mouse islet function. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/23078523>

Involvement of PPAR $\gamma$  in the antitumoral action of cannabinoids on hepatocellular carcinoma. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23640460>

Cannabinoid CB2 receptor activation attenuates cytokine-evoked mucosal damage in a human colonic explant model without changing epithelial permeability. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23706402>

**JWH-018** –CB1 agonist

Withdrawal Phenomena and Dependence Syndrome After the Consumption of "Spice Gold" (full - 2009)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2719097/?tool=pmcentrez>

Spice drugs: cannabinoids as a new designer drugs. (abst - 2009)

<http://www.ncbi.nlm.nih.gov/pubmed/19718488>

Spice: a never ending story? (abst – 2009) <http://www.ncbi.nlm.nih.gov/pubmed/19589652>

Synthetic cannabis mimic found in herbal incense (news – 2009)

<http://www.rsc.org/chemistryworld/News/2009/January/15010901.asp>

JWH018, a common constituent of 'Spice' herbal blends, is a potent and efficacious cannabinoid CB(1) receptor agonist. (full - 2010)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2931559/?tool=pubmed>

Involvement of cannabinoid-1 and cannabinoid-2 receptors in septic ileus. (full – 2010)

<http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2982.2009.01419.x/pdf>

Monitoring of herbal mixtures potentially containing synthetic cannabinoids as psychoactive compounds. (abst – 2010)

<http://www.ncbi.nlm.nih.gov/pubmed/20857386>

Chemical analysis of synthetic cannabinoids as designer drugs in herbal products.

(abst – 2010) <http://www.ncbi.nlm.nih.gov/pubmed/20117892>

Pharmacological properties and dependence liabilities of synthetic cannabinoids (abst – 2010)

[http://www.unboundmedicine.com/medline/ebm/record/20681249/abstract/%5BPharmacological\\_properties\\_and\\_dependence\\_liabilities\\_of\\_synthetic\\_cannabinoids%5D](http://www.unboundmedicine.com/medline/ebm/record/20681249/abstract/%5BPharmacological_properties_and_dependence_liabilities_of_synthetic_cannabinoids%5D)

Screening for the synthetic cannabinoid JWH-018 and its major metabolites in human doping controls. (abst - 2010)

<http://www.ncbi.nlm.nih.gov/pubmed/20872894>

FAQ: K2, Spice Gold, and Herbal 'Incense' (news - 2010)

<http://www.webmd.com/mental-health/news/k2-spice-gold-herbal-incense-faq>

THIS ISN'T YOUR MOTHER'S SPICE (news - 2010)

<http://www.mapinc.org/drugnews/v10/n497/a07.html?1173>

College students and use of K2: an emerging drug of abuse in young persons

(full – 2011) <http://www.substanceabusepolicy.com/content/6/1/16>

Beyond THC: The New Generation of Cannabinoid Designer Drugs. (full – 2011)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3187647/?tool=pubmed>

Investigating a not-so-natural high. (full – 2011) <http://pubs.acs.org/doi/full/10.1021/ac900564u>

Marijuana-based Drugs: Innovative Therapeutics or Designer Drugs of Abuse? (full – 2011) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3139381/?tool=pubmed>

Liquid chromatography-tandem mass spectrometry analysis of urine specimens for K2 (JWH-018) metabolites. (abst– 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21871158>

Synthetic cannabinoid JWH-018 and psychosis: An explorative study. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21316162>

Cardiotoxicity associated with the synthetic cannabinoid, K9, with laboratory confirmation. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21802885>

Synthetic cannabinoids in oral fluid. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21871150>

The emergence and analysis of synthetic cannabinoids. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21337724>

Comparison of "herbal highs" composition. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21318244>

Use of high-resolution accurate mass spectrometry to detect reported and previously unreported cannabinomimetics in "herbal high" products. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/20529459>

"Spice" girls: synthetic cannabinoid intoxication. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21167669>

Three cases of "spice" exposure. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21740143>

Severe toxicity following synthetic cannabinoid ingestion. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21970775>

Quantitative measurement of JWH-018 and JWH-073 metabolites excreted in human urine . (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21506519>

1-Pentyl-3-phenylacetylindoles and JWH-018 share in vivo cannabinoid profiles in mice. (abst – 2011) [http://www.unboundmedicine.com/medline/ebm/record/22127210/abstract/1\\_Pentyl\\_3\\_phenylacetylindoles\\_and\\_JWH\\_018\\_share\\_in\\_vivo\\_cannabinoid\\_profiles\\_in\\_mice](http://www.unboundmedicine.com/medline/ebm/record/22127210/abstract/1_Pentyl_3_phenylacetylindoles_and_JWH_018_share_in_vivo_cannabinoid_profiles_in_mice)

Effects of synthetic cannabinoids on electroencephalogram power spectra in rats. (abst – 2011) [http://www.unboundmedicine.com/medline/ebm/record/21640532/abstract/Effects\\_of\\_synthetic\\_cannabinoids\\_on\\_electroencephalogram\\_power\\_spectra\\_in\\_rats](http://www.unboundmedicine.com/medline/ebm/record/21640532/abstract/Effects_of_synthetic_cannabinoids_on_electroencephalogram_power_spectra_in_rats)

Latest blood test detects 12 popular synthetic cannabinoids in "fake pot". (news – 2011)  
<http://www.thefreelibrary.com/Latest+blood+test+detects+12+popular+synthetic+cannabinoids+in+%22fake...-a0261876557>

A Characterization of Synthetic Cannabinoid Exposures Reported to the National Poison Data System in 2010 (full – 2012)  
<http://www.annemergmed.com/webfiles/images/journals/ymem/FA-cohoyte.pdf>

The role of CB2 receptor ligands in human eosinophil function (full – 2012)  
<http://www.biomedcentral.com/content/pdf/2050-6511-13-S1-A13.pdf>

Adolescent Exposure of JWH-018 “Spice” Produces Subtle Effects on Learning and Memory Performance in Adulthood (link to PDF – 2012)  
<http://www.doaj.org/doaj?func=abstract&id=1075990&q1=cannabinoid&f1=all&b1=and&q2=&f2=all&rcNo=7&uiLanguage=en>

JWH-018 and JWH-073: {Delta}9-Tetrahydrocannabinol-Like Discriminative Stimulus Effects in Monkeys. (abst – 2012)  
[http://www.unboundmedicine.com/medline/ebm/record/2196552/abstract/JWH\\_018\\_and\\_JWH\\_073:\\_%7BDelta%7D9\\_Tetrahydrocannabinol\\_Like\\_Discriminative\\_Stimulus\\_Effects\\_in\\_Monkeys](http://www.unboundmedicine.com/medline/ebm/record/2196552/abstract/JWH_018_and_JWH_073:_%7BDelta%7D9_Tetrahydrocannabinol_Like_Discriminative_Stimulus_Effects_in_Monkeys)

Identification and structural characterization of the synthetic cannabinoid 3-(1-adamantoyl)-1-pentylindole as an additive in 'herbal incense'. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22359329>

Detection and disposition of JWH-018 and JWH-073 in mice after exposure to "Magic Gold" smoke. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22405481>

"Spice" and "k2" herbal highs: a case series and systematic review of the clinical effects and biopsychosocial implications of synthetic cannabinoid use in humans. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22691010>

Simultaneous analysis of several synthetic cannabinoids, THC, CBD and CBN, in hair by ultra-high performance liquid chromatography tandem mass spectrometry. Method validation and application to real samples. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22576873>

Detection and quantification of new designer drugs in human blood: part 1 - synthetic cannabinoids. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22593567>

A major glucuronidated metabolite of JWH-018 is a neutral antagonist at CB1 receptors. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22404317>

The spice in France: mixed herbs containing synthetic cannabinoids. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22796613>

Prevalence of Synthetic Cannabinoids in U.S. Athletes: Initial Findings. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22872465>

Acute toxicity due to the confirmed consumption of synthetic cannabinoids: Clinical and laboratory findings. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22971158>

Determination of naphthalen-1-yl-(1-pentylindol-3-yl)methanone (JWH-018) in mouse blood and tissue after inhalation exposure to 'buzz' smoke by HPLC/MS/MS (abst – 2012) <http://onlinelibrary.wiley.com/doi/10.1002/bmc.2710/abstract>

Synthetic Cannabinoid and Cathinone Use Among US Soldiers. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/23007932>

Identification, extraction and quantification of the synthetic cannabinoid JWH-018 from commercially available herbal marijuana alternatives. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/23092847>

Inhalation exposure to smoke from synthetic "marijuana" produces potent cannabimimetic effects in mice. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22776442>

Synthetic cannabinoids in "spice-like" herbal blends: first appearance of JWH-307 and recurrence of JWH-018 on the German market. (abst - 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22748479>

Synthetic marijuana was created strictly for research at Clemson (news – 2012) <http://www.timesnews.net/article/9042095/synthetic-marijuana-was-created-strictly-for-research-at-clemson>

Wyoming kidney failure outbreak linked to designer 'blueberry spice' drug, aka 'legal marijuana' (news – 2012) [http://www.naturalnews.com/035181\\_spice\\_recreational\\_drugs\\_kidney\\_failure.html](http://www.naturalnews.com/035181_spice_recreational_drugs_kidney_failure.html)

Blueberry "spice" in Wyoming linked to cases of renal failure (news – 2012) <http://www.thepoisonreview.com/2012/03/03/blueberry-spice-in-wyoming-linked-to-cases-of-renal-failure/>

New health concerns about 'fake pot' in US (news – 2012) <http://medicalxpress.com/news/2012-03-health-fake-pot.html>

Tachycardia followed by bradycardia after smoking the synthetic cannabinoid "K9" (news – 2012) <http://www.thepoisonreview.com/2012/05/22/tachycardia-followed-by-bradycardia-after-smoking-the-synthetic-cannabinoid-k9/>

DIFFERENTIAL DRUG-DRUG INTERACTIONS OF THE SYNTHETIC CANNABINOIDS JWH-018 AND JWH-073: IMPLICATIONS FOR DRUG ABUSE LIABILITY AND PAIN THERAPY. (full - 2013) <http://jpet.aspetjournals.org/content/early/2013/06/25/jpet.113.206003.long>

Screening for synthetic cannabinoids in hair by using LC-QTOF MS: A new and powerful approach to study the penetration of these new psychoactive substances in the population. (full – 2013) <http://msl.sagepub.com/content/early/2013/06/28/0025802413477396.long>

Getting up to speed with the public health and regulatory challenges posed by new psychoactive substances in the information age (editorial – 2013)  
<http://onlinelibrary.wiley.com/doi/10.1111/add.12287/full>

Synthetic Cannabinoids -The Challenges of Testing for Designer Drugs (article – 2013)  
<http://www.aacc.org/publications/cln/2013/february/Pages/Cannabinoids.aspx?PassThru=ok&PersonID=206339#>

Qualitative Confirmation of 9 Synthetic Cannabinoids and 20 Metabolites in Human Urine Using LC-MS/MS and Library Search. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23458260>

Analysis of new classes of recreational drugs in sewage: Synthetic cannabinoids and amphetamine-like substances. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23460377>

Toxicological profiles of selected synthetic cannabinoids showing high binding affinities to the cannabinoid receptor subtype CB1. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23494106>

Human metabolites of synthetic cannabinoids JWH-018 and JWH-073 bind with high affinity and act as potent agonists at cannabinoid type-2 receptors. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23537664>

Driving under the influence of synthetic cannabinoids ("Spice"): a case series. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23636569>

Validation of a Novel Immunoassay for the Detection of Synthetic Cannabinoids and Metabolites in Urine Specimens. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23625703>

Characteristics of the designer drug and synthetic cannabinoid receptor agonist AM-2201 regarding its chemistry and metabolism. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23832945>

Tolerance and cross-tolerance among high-efficacy synthetic cannabinoids JWH-018 and JWH-073 and low-efficacy phytocannabinoid  $\Delta^9$ -THC (abst – 2013)  
[http://www.fasebj.org/cgi/content/meeting\\_abstract/27/1\\_MeetingAbstracts/1097.1?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad](http://www.fasebj.org/cgi/content/meeting_abstract/27/1_MeetingAbstracts/1097.1?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad)

The omega and omega-1 monohydroxyl metabolites of the abused K2/Spice synthetic cannabinoids JWH-018 and JWH-073 bind with high affinity and act as agonists at human cannabinoid 2 receptors (hCB2s) (abst – 2013)  
[http://www.fasebj.org/cgi/content/meeting\\_abstract/26/1\\_MeetingAbstracts/660.8?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad](http://www.fasebj.org/cgi/content/meeting_abstract/26/1_MeetingAbstracts/660.8?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad)

Conditioned taste aversion elicited by synthetic cannabinoid JWH-018 in mice is attenuated by pretreatment with phytocannabinoid  $\Delta^9$ -THC (abst – 2013)

[http://www.fasebj.org/cgi/content/meeting\\_abstract/26/1\\_MeetingAbstracts/660.4?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad](http://www.fasebj.org/cgi/content/meeting_abstract/26/1_MeetingAbstracts/660.4?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad)

Structure-dependent inhibitory effects of synthetic cannabinoids against 12-O-tetradecanoylphorbol-13-acetate-induced inflammation and skin tumour promotion in mice (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23837590>

A Case of Cannabinoid Hyperemesis Syndrome Caused by Synthetic Cannabinoids. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23890687>

Smart drugs: green shuttle or real drug? (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23842669>

Monitoring of urinary metabolites of JWH-018 and JWH-073 in legal cases. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23890611>

### **JWH-073** - CB1 & CB2 agonist

Spice drugs: cannabinoids as a new designer drugs. (abst - 2009) [http://www.unboundmedicine.com/medline/ebm/record/19718488/abstract/%5BSpice drugs: cannabinoid s as a new designer drugs %5D](http://www.unboundmedicine.com/medline/ebm/record/19718488/abstract/%5BSpice%20drugs%3A%20cannabinoids%20as%20a%20new%20designer%20drugs%5D)

Spice: a never ending story? (abst – 2009) <http://www.ncbi.nlm.nih.gov/pubmed/19589652>

Chemical analysis of synthetic cannabinoids as designer drugs in herbal products. (abst – 2010) <http://www.ncbi.nlm.nih.gov/pubmed/20117892>

Monitoring of herbal mixtures potentially containing synthetic cannabinoids as psychoactive compounds. (abst – 2010) <http://www.ncbi.nlm.nih.gov/pubmed/20857386>

Now, There's a Test for That -- Norchem's "Fake Marijuana" Test Reveals Significantly Increased Abuse of Spice/K2 (news - 2010) <http://www.marketwire.com/press-release/Now-Theres-Test-That-Norchems-Fake-Marijuana-Test-Reveals-Significantly-Increased-Abuse-1356247.htm>

College students and use of K2: an emerging drug of abuse in young persons (full – 2011) <http://www.substanceabusepolicy.com/content/6/1/16>

Beyond THC: The New Generation of Cannabinoid Designer Drugs. (full – 2011) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3187647/?tool=pubmed>

Marijuana-based Drugs: Innovative Therapeutics or Designer Drugs of Abuse? (full – 2011) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3139381/?tool=pubmed>

"Spice" girls: synthetic cannabinoid intoxication. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21167669>

Three cases of "spice" exposure. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21740143>

Cardiotoxicity associated with the synthetic cannabinoid, K9, with laboratory confirmation. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21802885>

Synthetic cannabinoid JWH-018 and psychosis: an explorative study. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21316162>

Comparison of "herbal highs" composition. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21318244>

Synthetic cannabinoids in oral fluid. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21871150>

CP47,497-C8 and JWH073, commonly found in 'Spice' herbal blends, are potent and efficacious CB(1) cannabinoid receptor agonists. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21333643>

Quantitative measurement of JWH-018 and JWH-073 metabolites excreted in human urine. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21506519>

Latest blood test detects 12 popular synthetic cannabinoids in "fake pot". (news – 2011)  
<http://www.thefreelibrary.com/Latest+blood+test+detects+12+popular+synthetic+cannabinoids+in+%22fake...-a0261876557>

Chemicals Used in "Spice" and "K2" Type Products Now Under Federal Control and Regulation (news – 2011) <http://www.justice.gov/dea/pubs/pressrel/pr030111.html>

NMS Labs & Cerilliant Announce Identification Of Major Metabolite Of The Synthetic Cannabinoid JWH-073 (news – 2011) <http://www.medicalnewstoday.com/releases/226597.php>

A Characterization of Synthetic Cannabinoid Exposures Reported to the National Poison Data System in 2010 (full – 2012)  
<http://www.annemergmed.com/webfiles/images/journals/ymem/FA-cohoyte.pdf>

JWH-018 and JWH-073: {Delta}9-Tetrahydrocannabinol-Like Discriminative Stimulus Effects in Monkeys. (abst – 2012)  
[http://www.unboundmedicine.com/medline/ebm/record/21965552/abstract/JWH\\_018\\_and\\_JWH\\_073:\\_%7BDelta%7D9\\_Tetrahydrocannabinol\\_Like\\_Discriminative\\_Stimulus\\_Effects\\_in\\_Monkeys](http://www.unboundmedicine.com/medline/ebm/record/21965552/abstract/JWH_018_and_JWH_073:_%7BDelta%7D9_Tetrahydrocannabinol_Like_Discriminative_Stimulus_Effects_in_Monkeys)

Detection and disposition of JWH-018 and JWH-073 in mice after exposure to "Magic Gold" smoke. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22405481>

Monohydroxylated metabolites of the K2 synthetic cannabinoid JWH-073 retain intermediate to high cannabinoid 1 receptor (CB1R) affinity and exhibit neutral

antagonist to partial agonist activity. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22266354>

Simultaneous analysis of several synthetic cannabinoids, THC, CBD and CBN, in hair by ultra-high performance liquid chromatography tandem mass spectrometry. Method validation and application to real samples. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22576873>

Prevalence of Synthetic Cannabinoids in U.S. Athletes: Initial Findings.  
(abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22872465>

Acute toxicity due to the confirmed consumption of synthetic cannabinoids: Clinical and laboratory findings. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22971158>

Synthetic Cannabinoid and Cathinone Use Among US Soldiers. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/23007932>

Synthetic marijuana was created strictly for research at Clemson (news – 2012)  
<http://www.timesnews.net/article/9042095/synthetic-marijuana-was-created-strictly-for-research-at-clemson>

Tachycardia followed by bradycardia after smoking the synthetic cannabinoid “K9”  
(news – 2012) <http://www.thepoisonreview.com/2012/05/22/tachycardia-followed-by-bradycardia-after-smoking-the-synthetic-cannabinoid-k9/>

DIFFERENTIAL DRUG-DRUG INTERACTIONS OF THE SYNTHETIC CANNABINOIDS JWH-018 AND JWH-073: IMPLICATIONS FOR DRUG ABUSE LIABILITY AND PAIN THERAPY. (full - 2013)  
<http://jpet.aspetjournals.org/content/early/2013/06/25/jpet.113.206003.long>

Screening for synthetic cannabinoids in hair by using LC-QTOF MS: A new and powerful approach to study the penetration of these new psychoactive substances in the population. (full – 2013)  
<http://msl.sagepub.com/content/early/2013/06/28/0025802413477396.long>

Synthetic Cannabinoids -The Challenges of Testing for Designer Drugs  
(article – 2013)  
<http://www.aacc.org/publications/cln/2013/february/Pages/Cannabinoids.aspx?PassThru=ok&PersonID=206339#>

Qualitative Confirmation of 9 Synthetic Cannabinoids and 20 Metabolites in Human Urine Using LC-MS/MS and Library Search. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23458260>

Analysis of new classes of recreational drugs in sewage: Synthetic cannabinoids and amphetamine-like substances. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23460377>

Toxicological profiles of selected synthetic cannabinoids showing high binding affinities to the cannabinoid receptor subtype CB1. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23494106>

Human metabolites of synthetic cannabinoids JWH-018 and JWH-073 bind with high affinity and act as potent agonists at cannabinoid type-2 receptors. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23537664>

Validation of a Novel Immunoassay for the Detection of Synthetic Cannabinoids and Metabolites in Urine Specimens. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23625703>

Tolerance and cross-tolerance among high-efficacy synthetic cannabinoids JWH-018 and JWH-073 and low-efficacy phytocannabinoid  $\Delta^9$ -THC (abst – 2013)

[http://www.fasebj.org/cgi/content/meeting\\_abstract/27/1\\_MeetingAbstracts/1097.1?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad](http://www.fasebj.org/cgi/content/meeting_abstract/27/1_MeetingAbstracts/1097.1?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad)

The omega and omega-1 monohydroxyl metabolites of the abused K2/Spice synthetic cannabinoids JWH-018 and JWH-073 bind with high affinity and act as agonists at human cannabinoid 2 receptors (hCB2s) (abst – 2013)

[http://www.fasebj.org/cgi/content/meeting\\_abstract/26/1\\_MeetingAbstracts/660.8?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad](http://www.fasebj.org/cgi/content/meeting_abstract/26/1_MeetingAbstracts/660.8?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad)

Smart drugs: green shuttle or real drug? (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23842669>

A Case of Cannabinoid Hyperemesis Syndrome Caused by Synthetic Cannabinoids.

(abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23890687>

Monitoring of urinary metabolites of JWH-018 and JWH-073 in legal cases.

(abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23890611>

### **JWH-100 / AM -678** - CB1 agonist

College students and use of K2: an emerging drug of abuse in young persons

(full – 2011) <http://www.substanceabusepolicy.com/content/6/1/16>

Chemicals Used in "Spice" and "K2" Type Products Now Under Federal Control and

Regulation (news – 2011) <http://www.justice.gov/dea/pubs/pressrel/pr030111.html>

### **JWH-122** –CB1 agonist

Analysis of 30 synthetic cannabinoids in serum by liquid chromatography-electrospray ionization tandem mass spectrometry after liquid-liquid extraction (abst – 2012)

<http://onlinelibrary.wiley.com/doi/10.1002/jms.3020/abstract>

Acute toxicity due to the confirmed consumption of synthetic cannabinoids: Clinical and laboratory findings. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22971158>

Screening for synthetic cannabinoids in hair by using LC-QTOF MS: A new and powerful approach to study the penetration of these new psychoactive substances in the population. (full – 2013)  
<http://msl.sagepub.com/content/early/2013/06/28/0025802413477396.long>

Qualitative Confirmation of 9 Synthetic Cannabinoids and 20 Metabolites in Human Urine Using LC-MS/MS and Library Search. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23458260>

Analysis of new classes of recreational drugs in sewage: Synthetic cannabinoids and amphetamine-like substances. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23460377>

Toxicological profiles of selected synthetic cannabinoids showing high binding affinities to the cannabinoid receptor subtype CB1. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23494106>

Driving under the influence of synthetic cannabinoids ("Spice"): a case series. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23636569>

Acute Psychosis Associated with Recreational Use of Benzofuran 6-(2-Aminopropyl)Benzofuran (6-APB) and Cannabis. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23733714>

Structure-dependent inhibitory effects of synthetic cannabinoids against 12-O-tetradecanoylphorbol-13-acetate-induced inflammation and skin tumour promotion in mice (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23837590>

Smart drugs: green shuttle or real drug? (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23842669>

A Case of Cannabinoid Hyperemesis Syndrome Caused by Synthetic Cannabinoids. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23890687>

### **JWH-133/ 3-(1,1-dimethylbutyl)-1-deoxy-8-THC - CB2 agonist**

Inhibition of tumor angiogenesis by cannabinoids (full - 2003)  
<http://www.fasebj.org/cgi/reprint/02-0795fjev1?maxtoshow=&hits=10&RESULTFORMAT=&fulltext=cannabis&andorexactfulltext=and&searchid=1&FIRSTINDEX=20&sortspec=relevance&resourcectype=HWCIT>

Inhibition of guinea-pig and human sensory nerve activity and the cough reflex in guinea-pigs by cannabinoid (CB2) receptor activation. (full - 2003)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1574031/?tool=pubmed>

Effects of cannabinoid receptor-2 activation on accelerated gastrointestinal transit in lipopolysaccharide-treated rats (full - 2004)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1575196/?tool=pmcentrez>

Non-psychoactive CB2 cannabinoid agonists stimulate neural progenitor proliferation (full - 2006)

<http://www.fasebj.org/cgi/content/full/20/13/2405?maxtoshow=&hits=10&RESULTFORMAT=&fulltext=cannabis&andorexactfulltext=and&searchid=1&FIRSTINDEX=0&sortspec=relevance&resourcetype=HWCIT>

Agonists of cannabinoid receptor 1 and 2 inhibit experimental colitis induced by oil of mustard and by dextran sulfate sodium. (full - 2006)

<http://ajpgi.physiology.org/content/291/2/G364.long>

Signaling pathways involved in the cardioprotective effects of cannabinoids.

(full - 2006) [https://www.jstage.jst.go.jp/article/jphs/102/2/102\\_2\\_155/\\_pdf](https://www.jstage.jst.go.jp/article/jphs/102/2/102_2_155/_pdf)

Cannabinoid-2 receptor mediates protection against hepatic ischemia/reperfusion injury

(full - 2007) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2228252/?tool=pmcentrez>

Cannabinoids Induce Glioma Stem-like Cell Differentiation and Inhibit Gliomagenesis

(full - 2007) <http://www.jbc.org/content/282/9/6854.long>

Anti-inflammatory property of the cannabinoid receptor-2-selective agonist JWH-133 in a rodent model of autoimmune uveoretinitis (full - 2007)

<http://www.jleukbio.org/cgi/reprint/82/3/532?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=240&resourcetype=HWCIT>

In vivo effects of CB2 receptor-selective cannabinoids on the vasculature of normal and arthritic rat knee joints (full - 2007)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2219539/?tool=pmcentrez>

Influence of nicotinic receptor modulators on CB2 cannabinoid receptor agonist (JWH133)-induced antinociception in mice. (abst - 2007)

<http://www.ncbi.nlm.nih.gov/pubmed/17912054>

Attenuation of Experimental Autoimmune Hepatitis by Exogenous and Endogenous Cannabinoids: Involvement of Regulatory T Cells (full - 2008)

<http://molpharm.aspetjournals.org/content/74/1/20.full?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=320&resourcetype=HWCIT#content-block>

Regression of Fibrosis after Chronic Stimulation of Cannabinoid CB2 Receptor in Cirrhotic Rats (full - 2008)

<http://jpet.aspetjournals.org/content/324/2/475.full?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=320&resourcetype=HWCIT#content-block>

Additive Interaction of the Cannabinoid Receptor I Agonist Arachidonyl-2-chloroethylamide with Etomidate in a Sedation Model in Mice (full – 2008)  
[http://journals.lww.com/anesthesiology/Fulltext/2008/04000/Additive\\_Interaction\\_of\\_the\\_Cannabinoid\\_Receptor\\_I.19.aspx](http://journals.lww.com/anesthesiology/Fulltext/2008/04000/Additive_Interaction_of_the_Cannabinoid_Receptor_I.19.aspx)

Cannabinoid 2 receptor induction by IL-12 and its potential as a therapeutic target for the treatment of anaplastic thyroid carcinoma. (full - 2008)  
<http://www.nature.com/cgi/journal/v15/n2/full/7701101a.html>

Cannabinoid receptor agonists inhibit growth and metastasis of breast cancer (abst - 2008)  
[http://www.aacrmeetingabstracts.org/cgi/content/meeting\\_abstract/2008/1\\_Annual\\_Meeting/4081?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=480&resourceype=HWCIT](http://www.aacrmeetingabstracts.org/cgi/content/meeting_abstract/2008/1_Annual_Meeting/4081?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=480&resourceype=HWCIT)

Involvement of central cannabinoid CB2 receptor in reducing mechanical allodynia in a mouse model of neuropathic pain (abst – 2008)  
<http://www.sciencedirect.com/science/article/pii/S0014299908000630>

Activation of the cannabinoid 2 receptor (CB2) protects against experimental colitis. (full - 2009) <http://onlinelibrary.wiley.com/doi/10.1002/ibd.20960/full>

Cannabinoid CB2 Receptor Potentiates Obesity-Associated Inflammation, Insulin Resistance and Hepatic Steatosis (full - 2009)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2688760/?tool=pubmed>

Cannabinoids as novel anti-inflammatory drugs. (full - 2009)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2828614/?tool=pubmed>

Synthetic cannabinoid receptor agonists inhibit tumor growth and metastasis of breast cancer (full - 2009) <http://mct.aacrjournals.org/content/8/11/3117.full>

CB2 cannabinoid receptor activation is cardioprotective in a mouse model of ischemia/reperfusion (abst - 2009) <http://www.ncbi.nlm.nih.gov/pubmed/19162037>

Cannabinoids reduce ErbB2-driven breast cancer progression through Akt inhibition (full - 2010) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2917429/?tool=pmcentrez>

Activation of cannabinoid 2 receptors protects against cerebral ischemia by inhibiting neutrophil recruitment. (full – 2010) <http://www.fasebj.org/content/24/3/788.long>

Antitumorigenic Effects of Cannabinoids beyond Apoptosis (full - 2010)  
<http://jpet.aspetjournals.org/content/332/2/336.full?sid=af53ea87-ab4b-426e-9c7e-8f750e9c4a17>

Cannabinoid (JWH-133) therapy could be effective for treatment of corneal neovascularization (link to PDF – 2010)

<http://www.doaj.org/doaj?func=abstract&id=844832&q1=cannabinoid&f1=all&b1=or&q2=cannabis&f2=all&recNo=68&uiLanguage=en>

Cannabinoid (JWH-133) therapy could be effective for treatment of corneal neovascularization (abst – 2010)

<http://www.doaj.org/doaj?func=abstract&id=844832&q1=Cannabinoid%20%28JWH-133%29%20therapy%20could%20be%20effective%20for%20treatment%20of%20corneal%20neovascularization%20&f1=all&b1=and&q2=&f2=all&recNo=1&uiLanguage=en>

Cannabidiol and other cannabinoids reduce microglial activation in vitro and in vivo: relevance to Alzheimers' disease (full – 2011)

<http://molpharm.aspetjournals.org/content/early/2011/02/24/mol.111.071290.long>

Is lipid signaling through cannabinoid 2 receptors part of a protective system? (full – 2011) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3062638/>

The activation of the cannabinoid receptor type 2 reduces neutrophilic protease-mediated vulnerability in atherosclerotic plaques (full – 2011)

<http://eurheartj.oxfordjournals.org/content/33/7/846.full>

Brain cannabinoid CB2 receptors modulate cocaine's actions in mice (abst – 2011)

<http://www.nature.com/neuro/journal/vaop/ncurrent/full/nn.2874.html>

Atheroprotection via cannabinoid receptor-2 is mediated by circulating and vascular cells in vivo. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21884703>

Antinociceptive effects induced through the stimulation of spinal cannabinoid type 2 receptors in chronically inflamed mice (abst - 2011)

[http://www.unboundmedicine.com/medline/ebm/record/21771590/abstract/Antinociceptive\\_effects\\_induced\\_through\\_the\\_stimulation\\_of\\_spinal\\_cannabinoid\\_type\\_2\\_receptors\\_in\\_chronically\\_inflamed\\_mice](http://www.unboundmedicine.com/medline/ebm/record/21771590/abstract/Antinociceptive_effects_induced_through_the_stimulation_of_spinal_cannabinoid_type_2_receptors_in_chronically_inflamed_mice)

Cannabinoid receptor-2 (CB2) agonist ameliorates colitis in IL-10(-/-) mice by attenuating the activation of T cells and promoting their apoptosis. (abst – 2011)

<http://www.ncbi.nlm.nih.gov/pubmed/22119709>

Beneficial paracrine effects of cannabinoid receptor 2 on liver injury and regeneration. (abst – 2011)

[http://www.unboundmedicine.com/medline/ebm/record/20597071/abstract/Beneficial\\_paracrine\\_effects\\_of\\_cannabinoid\\_receptor\\_2\\_on\\_liver\\_injury\\_and\\_regeneration](http://www.unboundmedicine.com/medline/ebm/record/20597071/abstract/Beneficial_paracrine_effects_of_cannabinoid_receptor_2_on_liver_injury_and_regeneration)

Spinal cannabinoid CB2 receptors as a target for neuropathic pain: an investigation using chronic constriction injury. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/22210507>

Can marijuana curb cocaine addiction? (news – 2011)

<http://theweek.com/article/index/217709/can-marijuana-curb-cocaine-addiction>

Prolonged oral Cannabinoid Administration prevents Neuroinflammation, lowers beta-amyloid Levels and improves Cognitive Performance in Tg APP 2576 Mice.

(full – 2012) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3292807/>

Cannabinoid Receptor 2-Mediated Attenuation of CXCR4-Tropic HIV Infection in Primary CD4+ T Cells (full – 2012)

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0033961>

The fatty acid amide hydrolase inhibitor URB597 exerts anti-inflammatory effects in hippocampus of aged rats and restores an age-related deficit in long-term potentiation (full – 2012) <http://www.jneuroinflammation.com/content/9/1/79>

GPR18 in microglia: implications for the CNS and endocannabinoid system signaling (full – 2012) <http://onlinelibrary.wiley.com/doi/10.1111/j.1476-5381.2012.02019.x/full>

Cannabinoid type 2 receptor activation downregulates stroke-induced classic and alternative brain macrophage/microglial activation concomitant to neuroprotection. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22020035>

Activation of cannabinoid receptor 2 attenuates leukocyte-endothelial cell interactions and blood-brain barrier dysfunction under inflammatory conditions. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22442067>

Cannabinoid receptor 2 agonist ameliorates mesenteric angiogenesis and portosystemic collaterals in cirrhotic rats. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22290687>

Cannabinoid receptor CB2 protects against balloon-induced neointima formation. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22271125>

Characterisation of cannabinoid-induced relief of neuropathic pain in a rat model of cisplatin-induced neuropathy. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23454533>

Attenuation of HIV-1 replication in macrophages by cannabinoid receptor 2 agonists. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23463725>

Effect of Cannabinoid Receptor Activation on Spreading Depression. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23493641>

CB2 Cannabinoid Receptor Agonist Ameliorates Alzheimer-Like Phenotype in A $\beta$ PP/PS1 Mice. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23515018>

Activation of Cannabinoid Type 2 Receptor by JWH133 Protects Heart Against Ischemia/Reperfusion-Induced Apoptosis. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23711495>

Synaptic plasticity alterations associated with memory impairment induced by deletion of CB2 cannabinoid receptors. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23796670>

**JWH – 150** - CB2 agonist

Cannabinoid Receptor 2-Mediated Attenuation of CXCR4-Tropic HIV Infection in Primary CD4+ T Cells (full – 2012)

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0033961>

**JWH-200**

Synthetic Cannabinoids -The Challenges of Testing for Designer Drugs (article – 2013)

<http://www.aacc.org/publications/cln/2013/february/Pages/Cannabinoids.aspx?PassThru=ok&PersonID=206339#>

**JWH-210** – CB1 agonist

Analysis of 30 synthetic cannabinoids in serum by liquid chromatography-electrospray ionization tandem mass spectrometry after liquid-liquid extraction (abst – 2012)

<http://onlinelibrary.wiley.com/doi/10.1002/jms.3020/abstract>

Acute toxicity due to the confirmed consumption of synthetic cannabinoids: Clinical and laboratory findings. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22971158>

Identification and Structural Elucidation of Four Cannabimimetic Compounds (RCS-4, AM-2201, JWH-203 and JWH-210) in Seized Products. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23339188>

Qualitative Confirmation of 9 Synthetic Cannabinoids and 20 Metabolites in Human Urine Using LC-MS/MS and Library Search. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23458260>

Toxicological profiles of selected synthetic cannabinoids showing high binding affinities to the cannabinoid receptor subtype CB1. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23494106>

Driving under the influence of synthetic cannabinoids ("Spice"): a case series. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23636569>

Structure-dependent inhibitory effects of synthetic cannabinoids against 12-O-tetradecanoylphorbol-13-acetate-induced inflammation and skin tumour promotion in mice (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23837590>

Identification and Structural Elucidation of Four Cannabimimetic Compounds (RCS-4, AM-2201, JWH-203 and JWH-210) in Seized Products (abst – 2013) <http://jat.oxfordjournals.org/content/37/2/56.abstract?sid=7be65428-0ff8-4917-884b-c35f5a2819af>

### **JWH-250**

Screening for synthetic cannabinoids in hair by using LC-QTOF MS: A new and powerful approach to study the penetration of these new psychoactive substances in the population. (full – 2013) <http://msl.sagepub.com/content/early/2013/06/28/0025802413477396.long>

Validation of a Novel Immunoassay for the Detection of Synthetic Cannabinoids and Metabolites in Urine Specimens. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23625703>

Qualitative Confirmation of 9 Synthetic Cannabinoids and 20 Metabolites in Human Urine Using LC-MS/MS and Library Search. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23458260>

Smart drugs: green shuttle or real drug? (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23842669>

### **JZL-184** – blocks breakdown of 2-AG

Selective blockade of 2-arachidonoylglycerol hydrolysis produces cannabinoid behavioral effects (full – 2009) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2605181/>

Spinal administration of the monoacylglycerol lipase inhibitor JZL184 produces robust inhibitory effects on nociceptive processing and the development of central sensitization in the rat (full – 2012) <http://onlinelibrary.wiley.com/doi/10.1111/j.1476-5381.2012.02179.x/full>

Monoacylglycerol lipase is a new therapeutic target for Alzheimer's disease (full – 2012) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3513645/>

Repeated Low Dose Administration of the Monoacylglycerol Lipase Inhibitor JZL184 Retains CB1 Receptor Mediated Antinociceptive and Gastroprotective Effects. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23412396>

**KM-233** – CB2 agonist

Safety and efficacy of a novel cannabinoid chemotherapeutic, KM-233, for the treatment of high-grade glioma. (abst – 2006) <http://www.ncbi.nlm.nih.gov/pubmed/16314952>

Preclinical studies of KM-233, a safe and effective classical cannabinoid chemotherapeutic for the treatment of high-grade glioma (news – 2006) <http://www.aans.org/Media/Article.aspx?ArticleId=36969>

Synthesis of Novel Cannabinoid Ligands and Their Use as Anti-Glioma and Anti-Inflammatory Agents (full – 2010) <http://etd.uthsc.edu/WORLD-ACCESS/Gurley/2010-030-Gurley.pdf>

Mechanism of anti-glioma activity and in vivo efficacy of the cannabinoid ligand KM-233 (full – 2012) <http://link.springer.com/article/10.1007/s11060-012-0958-5/fulltext.html>

**KN38-7271/ BAY38-7271** – CB1 & CB2 agonist

Characterization of the diarylether sulfonylester (-)-(R)-3-(2-hydroxymethylindanyl-4-oxy)phenyl-4,4,4-trifluoro-1-sulfonate (BAY 38-7271) as a potent cannabinoid receptor agonist with neuroprotective properties. (full – 2002) <http://jpet.aspetjournals.org/content/302/1/359.long>

BAY 38-7271: a novel highly selective and highly potent cannabinoid receptor agonist for the treatment of traumatic brain injury. (abst – 2003) <http://www.ncbi.nlm.nih.gov/pubmed/14647528>

Neuroprotective and brain edema-reducing efficacy of the novel cannabinoid receptor agonist BAY 38-7271. (abst – 2003) <http://www.ncbi.nlm.nih.gov/pubmed/14519516>

Breakthrough in treatment of Traumatic Brain Injury: KeyNeurotek's clinical study reaches primary endpoint and shows significant increase in survival (news - 2009) [http://www.drugs.com/clinical\\_trials/breakthrough-traumatic-brain-injury-keyneurotek-s-clinical-study-reaches-primary-endpoint-shows-8667.html](http://www.drugs.com/clinical_trials/breakthrough-traumatic-brain-injury-keyneurotek-s-clinical-study-reaches-primary-endpoint-shows-8667.html)

Early Survival of Comatose Patients after Severe Traumatic Brain Injury with the Dual Cannabinoid CB1/CB2 Receptor Agonist KN38-7271: A Randomized, Double-Blind, Placebo-Controlled Phase II Trial. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22696266>

Cannabinoid Receptor Subtypes 1 and 2 Mediate Long-Lasting Neuroprotection and Improve Motor Behaviour Deficits After Transient Focal Cerebral Ischemia.

(abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/23069763>

### **LBP-1**- CB1 agonist

Low brain penetrant CB1 receptor agonists for the treatment of neuropathic pain.

(abst - 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22421020>

### **MARINOL**- a synthetic THC - also see DRONABINOL

Cannabinoids (encyclopedia entry) <http://www.chemie.de/lexikon/e/Cannabinoids/>

CANNABIS AND MARINOL IN THE TREATMENT OF MIGRAINE HEADACHE

(letter - undated) <http://www.druglibrary.org/schaffer/hemp/migrn2.htm>

Chronic Migraine Headache: five cases successfully treated with Marinol and/or illicit cannabis. (abst - 1991) <http://www.druglibrary.org/schaffer/hemp/migrn1.htm>

Abuse potential of dronabinol (Marinol). (abst – 1998)

<http://www.ncbi.nlm.nih.gov/pubmed/9692381>

Chapter 3: Cannabis and Marinol Compared (book excerpt - 2001)

[http://www.or-coast.net/contigo/PDF%201%20Files/chpt\\_3.pdf](http://www.or-coast.net/contigo/PDF%201%20Files/chpt_3.pdf)

Healing Haze? (news - 2001) <http://www.scientificamerican.com/article.cfm?id=healing-haze>

The Role of Cannabis and Cannabinoids in Pain Management (full – 2002)

[http://www.humanhemphealth.ca/Russo-AAPM\\_chapter.pdf](http://www.humanhemphealth.ca/Russo-AAPM_chapter.pdf)

Marinol Death Sentence: Oregon Man Denied Liver Transplant Because of Prescription - He's Not the Only One (news – 2003)

<http://stopthedrugwar.org/chronicle-old/299/notransplant.shtml>

MARINOL® (Dronabinol) Capsules (monograph - 2004)

<http://www.fda.gov/ohrms/dockets/dockets/05n0479/05N-0479-emc0004-04.pdf>

Adverse Event Reporting System – Marinol/ Dronabinol (full – 2005)  
<http://medicalmarijuana.procon.org/sourcefiles/marinol.pdf>

Marinol vs Natural Cannabis (full - 2005)  
[http://www.norml.org/pdf\\_files/NORML\\_Marinol\\_vs\\_Natural\\_Cannabis.pdf](http://www.norml.org/pdf_files/NORML_Marinol_vs_Natural_Cannabis.pdf)

Testimony of Terry Jacobs to FDA - why he prefers for medical marijuana to Marinol  
(news/anecdotal - 2005)  
<http://www.examiner.com/examiner/x-19678-Cannabis-Revolution-Examiner~y2009m11d5-Testimony-of-Terry-Jacobs-to-FDA--why-he-prefers-for-medical-marijuana-to-Marinol>

Cannabinoids In Medicine: A Review Of Their Therapeutic Potential (full – 2006)  
<http://www.doctordeluca.com/Library/WOD/WPS3-MedMj/CannabinoidsMedMetaAnalysis06.pdf>

Big Pharma's Strange Holy Grail: Cannabis Without Euphoria? (news - 2006)  
<http://www.mapinc.org/drugnews/v06.n899.a05.html>

ACG: Cannabinoid Activator Mellows Out Colon (news - 2006)  
<http://www.medpagetoday.com/MeetingCoverage/ACG/4410>

Cannabinoids in the management of difficult to treat pain (full - 2008)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2503660/?tool=pmcentrez>

Medical use of cannabinoids does not cause an increase in serious adverse health effects  
(news - 2008) [http://www.cannabis-med.org/english/bulletin/ww\\_en\\_db\\_cannabis\\_artikel.php?id=272](http://www.cannabis-med.org/english/bulletin/ww_en_db_cannabis_artikel.php?id=272)

Deaths from Marijuana v. 17 FDA-Approved Drugs (full - 2009)  
<http://medicalmarijuana.procon.org/view.resource.php?resourceID=145>

Emerging strategies for exploiting cannabinoid receptor agonists as medicines.  
(full – 2009) <http://onlinelibrary.wiley.com/doi/10.1111/j.1476-5381.2008.00048.x/full>

Does the Pot Pill Work? (news - 2009)  
<http://www.cbsnews.com/stories/2009/08/03/health/main5209380.shtml>

The FDA has written documentation that patients can overdose on Marinol and that it can  
be lethal (news - 2009)  
<http://www.examiner.com/examiner/x-19678-Cannabis-Revolution-Examiner~y2009m10d23-The-FDA-has-written-documentation-that-patients-can-overdose-on-Marinol-and-that-it-can-be-lethal>

Medications That Cause Excessive Sweating (news – 2010)  
<http://www.livestrong.com/article/264809-medications-that-cause-excessive-sweating/>

Nature's (Legal) Cannabinoids (news - 2010)  
<http://www.mapinc.org/drugnews/v10/n126/a04.html?1194>

Oral THC Reduces Aggressive Behavior In Patients With Refractory Psychosis, Study Says (news - 2010) [http://www.norml.org/index.cfm?Group\\_ID=8419](http://www.norml.org/index.cfm?Group_ID=8419)

Is Pot Good For You? (news – 2011)  
<http://www.time.com/time/magazine/article/0,9171,1003570,00.html>

Endocannabinoids in nervous system health and disease: the big picture in a nutshell (full – 2012) <http://rstb.royalsocietypublishing.org/content/367/1607/3193.full>

DRONABINOL capsule [Watson Laboratories, Inc.] (monograph - 2012)  
<http://dailymed.nlm.nih.gov/dailymed/mobile/lookup.cfm?setid=1f1af798-17d5-47d0-b129-21d4aa1eb125>

Side Effects of the Marinol Pill (news – 2012)  
<http://www.livestrong.com/article/90879-side-effects-marinol-pill/>

Can medical marijuana help rheumatoid arthritis? (news – 2012)  
<http://healthyliving.msn.com/diseases/rheumatoid-arthritis/can-medical-marijuana-help-rheumatoid-arthritis-1>

My Life With Stiff Person Syndrome (anecdotal – 2012)  
<http://tanyaslifewithsps.com/2012/05/03/dont-remind-me-i-already-know-sps-update-5312/>

The pharmacologic and clinical effects of medical cannabis. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23386598>

Medical Marijuana: Consortium of Multiple Sclerosis Centers (news – 2013)  
<http://www.msviews.org/msviewsandnews4/index.php/2012-05-28-00-15-54/2012-07-04-00-19-28/610-medical-marijuana-consortium-of-multiple-sclerosis-centers>

Maine Mom Fights Son's Autistic Episodes With Marinol (news – 2013)  
<http://www.marijuana.com/news/2013/04/maine-mom-fights-sons-autistic-episodes-with-marinol/>

### **MDA-7** - strong CB2 agonist

MDA7: a novel selective agonist for CB2 receptors that prevents allodynia in rat neuropathic pain models. (full – 2008)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2597252/>

Prevention of paclitaxel-induced neuropathy through activation of the central cannabinoid type 2 receptor system. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22392969>

Cannabinoid Receptor Stimulator Reverses Symptoms of Alzheimer's Disease in Animal Model (news – 2012) [http://www.biotechdaily.com/?option=com\\_article&Itemid=294742494](http://www.biotechdaily.com/?option=com_article&Itemid=294742494)

Researchers investigating potential drug for treatment of Alzheimer's disease

(news – 2012)

<http://medicalxpress.com/news/2012-08-potential-drug-treatment-alzheimer-disease.html>

Activation of the CB(2) receptor system reverses amyloid-induced memory deficiency.

(abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/22795792>

In vivo efficacy of enabling formulations based on hydroxypropyl- $\beta$ -cyclodextrins, micellar preparation, and liposomes for the lipophilic cannabinoid CB2 agonist, MDA7.

(abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23192786>

### **MDA- 19** – synthetic, strong CB2 agonist

Design and synthesis of a novel series of N-alkyl isatin acylhydrazone derivatives that act as selective cannabinoid receptor 2 agonists for the treatment of neuropathic pain.

(abst – 2008) <http://www.ncbi.nlm.nih.gov/pubmed/18666769>

Pharmacological characterization of a novel cannabinoid ligand, MDA19, for treatment of neuropathic pain. (full – 2010) <http://www.anesthesia-analgesia.org/content/111/1/99.long>

Studies demonstrate analgesic properties of synthetic cannabinoid (news – 2010)

<http://www.news-medical.net/news/20100702/Studies-demonstrate-analgesic-properties-of-synthetic-cannabinoid.aspx>

### **MT- 178** - CB2 agonist

Antinociceptive effects of the selective CB2 agonist MT178 in inflammatory and chronic rodent pain models. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23518609>

### **NABILONE/ CESAMET**

Delta(9)-tetrahydrocannabinol and synthetic cannabinoids prevent emesis produced by the cannabinoid CB(1) receptor antagonist/inverse agonist SR 141716A. (full – 2001)

<http://www.nature.com/npp/journal/v24/n2/full/1395605a.html>

Cannabinoids reduce levodopa-induced dyskinesia in Parkinson's disease: a pilot study.

(abst - 2001) [http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=54](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=54)

Antiinflammatory action of endocannabinoid palmitoylethanolamide and the synthetic cannabinoid nabilone in a model of acute inflammation in the rat (full - 2002)  
<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1573125&tool=pmcentrez>

Cannabinoids and multiple sclerosis. (abst - 2002)  
<http://www.ncbi.nlm.nih.gov/pubmed/12182963>

Cannabinoid rotation in a young woman with chronic cystitis (abst - 2003)  
[http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=115](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=115)

Therapeutic potential of cannabinoids in CNS disease. (abst - 2003)  
<http://www.ncbi.nlm.nih.gov/pubmed/12617697>

Nabilone Could Treat Chorea and Irritability in Huntington's Disease (letter - 2006)  
<http://neuro.psychiatryonline.org/article.aspx?articleid=102920>

Nabilone significantly reduces spasticity-related pain (abst - 2006)  
[http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=200](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=200)

The synthetic cannabinoid nabilone improves pain and symptom management in cancer patients (abst - 2006) [http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=177](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=177)

Low dose treatment with the synthetic cannabinoid Nabilone significantly reduces spasticity-related pain : A double-blind placebo-controlled cross-over trial. (abst - 2006)  
[http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=200](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=200)

Synthetic cannabinomimetic nabilone on patients with chronic pain (abst - 2006)  
[http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=197](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=197)

The synthetic cannabinoid nabilone improves pain and symptom management in cancer patients (abst - 2006)  
[http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=177](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=177)

Low dose treatment with the synthetic cannabinoid Nabilone significantly reduces spasticity-related pain : A double-blind placebo-controlled cross-over trial. (abst - 2006) [http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=200](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=200)

The synthetic cannabinoid nabilone improves pain and symptom management in cancer patients (abst - 2006)  
[http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=177](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=177)

Nabilone improves pain and symptom management in cancer patients (abst - 2006) [http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=177](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=177)

Synthetic cannabinomimetic nabilone on patients with chronic pain (abst - 2006)  
[http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=197](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=197)

A Look At FDA-OK'd 'Marijuana' Drug (news - 2006)  
<http://www.cbsnews.com/stories/2006/05/18/health/webmd/main1632561.shtml>

2nd synthetic marijuana drug OK'd for chemo effects (news – 2006)  
[http://www.usatoday.com/news/health/2006-05-16-marijuana-drug\\_x.htm](http://www.usatoday.com/news/health/2006-05-16-marijuana-drug_x.htm)

Cesamet, THC and chemotherapy (news – 2006)  
<http://www.sciencebase.com/science-blog/cesamet-thc.html>

Cesamet (nabilone) capsule (info page - 2007)  
<http://dailymed.nlm.nih.gov/dailymed/mobile/drugInfo.cfm?id=4474>

Cannabinoids in the treatment of chemotherapy-induced nausea and vomiting: beyond prevention of acute emesis. (abst – 2007) <http://www.ncbi.nlm.nih.gov/pubmed/17566383>

Symptomatic treatment of multiple sclerosis using cannabinoids: recent advances. (abst - 2007) <http://www.ncbi.nlm.nih.gov/pubmed/17868014>

Synthetic Cannabis for Fibromyalgia Pain? (news - 2007)  
<http://www.healthcentral.com/chronic-pain/c/5949/16104/fm-pain>

Nabilone relieves many advanced Ca symptoms (news - 2007)  
<http://www.highbeam.com/doc/1G1-178441488.html>

Cannabinoids in the management of difficult to treat pain (full - 2008)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2503660/?tool=pmcentrez>

Comparison of analgesic effects and patient tolerability of nabilone and dihydrocodeine for chronic neuropathic pain: randomised, crossover, double blind study. (full – 2008)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2213874/?tool=pubmed>

Nabilone for the treatment of pain in fibromyalgia. (abst - 2008)  
<http://www.ncbi.nlm.nih.gov/pubmed/17974490>

Nabilone for the treatment of paraneoplastic night sweats: a report of four cases (abst – 2008) <http://www.ncbi.nlm.nih.gov/pubmed/18715188>

Science: Nabilone effective in the treatment of night sweats of four patients with advanced cancer (news – 2008)  
[http://www.cannabis-med.org/english/bulletin/ww\\_en\\_db\\_cannabis\\_artikel.php?id=277#1](http://www.cannabis-med.org/english/bulletin/ww_en_db_cannabis_artikel.php?id=277#1)

Marijuana Derivative Called Effective in Fibromyalgia (news - 2008)  
<http://www.medpagetoday.com/Rheumatology/Fibromyalgia/8377>

Marijuana-Based Drug Reduces Fibromyalgia Pain, Study Suggests (news - 2008)  
<http://www.sciencedaily.com/releases/2008/02/080217214547.htm>

Two New Approaches for Fibromyalgia (news – 2008)  
<http://www.health-and-age.org/health-topics/2008/2/27/two-new-approaches-for-fibromyalgia.html>

Cannabinoids, Endocannabinoids, and Related Analogs in Inflammation

(full - 2009) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2664885/?tool=pmcentrez>

The Effects of Nabilone on Sleep in Fibromyalgia: Results of a Randomized Controlled Trial. (full - 2009) <http://www.anesthesia-analgesia.org/content/110/2/604.long>

Emerging strategies for exploiting cannabinoid receptor agonists as medicines. (full – 2009) <http://onlinelibrary.wiley.com/doi/10.1111/j.1476-5381.2008.00048.x/full>

Cannabinoids as pharmacotherapies for neuropathic pain: from the bench to the bedside. (full – 2009) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2755639/>

A pilot study using nabilone for symptomatic treatment in Huntington's disease. (abst – 2009) [http://www.unboundmedicine.com/medline/ebm/record/19845035/abstract/A\\_pilot\\_study\\_using\\_nabilone\\_for\\_symptomatic\\_treatment\\_in\\_Huntington%27s\\_disease](http://www.unboundmedicine.com/medline/ebm/record/19845035/abstract/A_pilot_study_using_nabilone_for_symptomatic_treatment_in_Huntington%27s_disease)

The use of a synthetic cannabinoid in the management of treatment-resistant nightmares in posttraumatic stress disorder (PTSD). (abst - 2009) <http://www.ncbi.nlm.nih.gov/pubmed/19228182?dopt=Abstract>

CESAMET® CII (nabilone) Capsules For Oral Administration (Archived drug label - 2010) <http://dailymed.nlm.nih.gov/dailymed/archives/fdaDrugInfo.cfm?archiveid=16800>

A randomized, double-blinded, crossover pilot study assessing the effect of nabilone on spasticity in persons with spinal cord injury. (abst - 2010) <http://www.ncbi.nlm.nih.gov/pubmed/20434606>

An Open-Label Comparison of Nabilone and Gabapentin as Adjuvant Therapy or Monotherapy in the Management of Neuropathic Pain in Patients with Peripheral Neuropathy. (abst – 2010) [http://www.cannabis-med.org/studies/ww\\_en\\_db\\_study\\_show.php?s\\_id=311](http://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=311)

What Are Prescription Drugs That Are a Substitute for Marijuana? (news – 2011) <http://www.livestrong.com/article/137065-what-are-prescription-drugs-that-are-substitute-marijuana/#ixzz21Ia1dVQG>

The Therapeutic Potential of Cannabis and Cannabinoids (full – 2012) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3442177/>

CADTH Rapid Response Report: Cannabinoids for the treatment of post-traumatic stress disorder (full – 2012) <http://www.cadth.ca/media/pdf/htis/july-2012/RC0368%20Cannabinoids%20Final.pdf>

Endocannabinoids in nervous system health and disease: the big picture in a nutshell (full – 2012) <http://rstb.royalsocietypublishing.org/content/367/1607/3193.full>

Subjective, cognitive and cardiovascular dose-effect profile of nabilone and dronabinol in marijuana smokers. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22260337>

Cannabinoids in the treatment of chemotherapy-induced nausea and vomiting. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22491047>

A Randomized, Double-Blind, Placebo Controlled, Parallel Assignment, Flexible Dose, Efficacy Study of Nabilone as Adjuvant in the Treatment of Diabetic Peripheral Neuropathic Pain Using an Enriched Enrollment Randomized Withdrawal Design (S38.003) (abst – 2012)  
[http://www.neurology.org/cgi/content/meeting\\_abstract/78/1\\_MeetingAbstracts/S38.003?maxtoshow=&hits=25&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=180&sortspec=date&resourcetype=HWCIT](http://www.neurology.org/cgi/content/meeting_abstract/78/1_MeetingAbstracts/S38.003?maxtoshow=&hits=25&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=180&sortspec=date&resourcetype=HWCIT)

An enriched-enrolment, randomized withdrawal, flexible-dose, double-blind, placebo-controlled, parallel assignment efficacy study of nabilone as adjuvant in the treatment of diabetic peripheral neuropathic pain. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22921260>

Study: Synthetic THC Analogue Mitigates Diabetic Neuropathy, Is ‘Well Tolerated’ In Patients (news – 2012)  
<http://norml.org/news/2012/09/20/study-synthetic-thc-analogue-mitigates-diabetic-neuropathy-is-well-tolerated-in-patients>

New drug offers novel pain management therapy for diabetics. (news - 2012)  
<http://www.thefreelibrary.com/New+drug+offers+novel+pain+management+therapy+for+diabetics.-a0306899453>

Synthetic cannabinoid could treat pain in diabetes patients (news – 2012)  
[http://www.medwirenews.com/57/102248/Diabetes/Synthetic\\_cannabinoid\\_could\\_treat\\_pain\\_in\\_diabetes\\_patients\\_.html](http://www.medwirenews.com/57/102248/Diabetes/Synthetic_cannabinoid_could_treat_pain_in_diabetes_patients_.html)

Drug offers new pain management therapy for diabetics (news – 2012)  
<http://medicalxpress.com/news/2012-10-drug-pain-therapy-diabetics.html>

Can medical marijuana help rheumatoid arthritis? (news – 2012)  
<http://healthyliving.msn.com/diseases/rheumatoid-arthritis/can-medical-marijuana-help-rheumatoid-arthritis-1>

The pharmacologic and clinical effects of medical cannabis. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23386598>

The use of cannabinoids in chronic pain. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23893276>

International Union of Basic and Clinical Pharmacology. LXXIX. Cannabinoid Receptors and Their Ligands: Beyond CB1 and CB2 (full – 2010)  
<http://pharmrev.aspetjournals.org/content/62/4/588.full.pdf+html>

A role for the putative cannabinoid receptor GPR55 in the islets of Langerhans. (full – 2011) <http://joe.endocrinology-journals.org/content/211/2/177.long>

A novel CB receptor GPR55 and its ligands are involved in regulation of gut movement in rodents. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21726355>

The abnormal cannabidiol analogue O-1602 reduces nociception in a rat model of acute arthritis via the putative cannabinoid receptor GPR55. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21683763>

A novel CB receptor GPR55 and its ligands are involved in regulation of gut movement in rodents. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21726355>

The atypical cannabinoid O-1602 protects against experimental colitis and inhibits neutrophil recruitment. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21744421>

The atypical cannabinoid O-1602 shows antitumorigenic effects in colon cancer cells and reduces tumor growth in a colitis-associated colon cancer model (full – 2012)  
<http://www.biomedcentral.com/content/pdf/2050-6511-13-S1-A23.pdf>

GPR18 in microglia: implications for the CNS and endocannabinoid system signaling (full – 2012) <http://onlinelibrary.wiley.com/doi/10.1111/j.1476-5381.2012.02019.x/full>

siRNA knockdown of GPR18 receptors in BV-2 microglia attenuates N-arachidonoyl glycine-induced cell migration (full – 2012)  
<http://www.jmolecularsignaling.com/content/7/1/10>

The atypical cannabinoid O-1602 stimulates food intake and adiposity in rats. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/21981246>

The atypical cannabinoid O-1602 increases hind paw sensitisation in the chronic constriction injury model of neuropathic pain. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22227298>

Evidence for the Putative Cannabinoid Receptor (GPR55)-Mediated Inhibitory Effects on Intestinal Contractility in Mice. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22759743>

The Atypical Cannabinoid O-1602: Targets, Actions, and the Central Nervous System. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22831390>

O-1602, an atypical cannabinoid, inhibits tumor growth in colitis-associated colon cancer through multiple mechanisms (abst – 2012)  
<http://link.springer.com/article/10.1007%2Fs00109-012-0957-1>

A role for O-1602 and G protein-coupled receptor GPR55 in the control of colonic motility in mice. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23603203>

Regulation of cell proliferation by GPR55/cannabinoid receptors using (R,R')-4'-methoxy-1-naphthylfenoterol in rat C6 glioma cell line (abst – 2013)  
<http://www.abstractsonline.com/Plan/ViewAbstract.aspx?sKey=695437a2-7613-4bef-8697-2294df2da859&cKey=18ba6eb0-2c5f-4004-a56f-2d1f450e2ed1&mKey=9b2d28e7-24a0-466f-a3c9-07c21f6e9bc9>

(R,R')-4'-methoxy-1-naphthylfenoterol Inhibits GPR55 signaling and the modulation of motility in human cancer cells (abst – 2013)  
<http://www.abstractsonline.com/Plan/ViewAbstract.aspx?sKey=25370896-7d13-4f15-be76-f664d79b577d&cKey=87b7fec1-45cc-42b7-aca7-48c6b1d42773&mKey=9b2d28e7-24a0-466f-a3c9-07c21f6e9bc9>

#### **O- 1966** - CB2 agonist

Modulation of inflammatory responses by a cannabinoid-2-selective agonist after spinal cord injury. (full – 2011) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3235339/>

Acute effects of a selective cannabinoid-2 receptor agonist on neuroinflammation in a murine model of traumatic brain injury (abst – 2011)  
[http://www.unboundmedicine.com/medline/ebm/record/21332427/abstract/Acute effects of a selective cannabinoid 2 receptor agonist on neuroinflammation in a murine model of traumatic brain injury](http://www.unboundmedicine.com/medline/ebm/record/21332427/abstract/Acute%20effects%20of%20a%20selective%20cannabinoid%20receptor%20agonist%20on%20neuroinflammation%20in%20a%20murine%20model%20of%20traumatic%20brain%20injury)

Activation of cannabinoid receptor 2 attenuates leukocyte-endothelial cell interactions and blood-brain barrier dysfunction under inflammatory conditions. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22442067>

A cannabinoid type 2 receptor agonist attenuates blood-brain barrier damage and neurodegeneration in a murine model of traumatic brain injury. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22903455>

O-1602, an atypical cannabinoid, inhibits tumor growth in colitis-associated colon cancer through multiple mechanisms. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22965195>

Attenuation of HIV-1 replication in macrophages by cannabinoid receptor 2 agonists. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23463725>

Effect of cannabinoid CB2 receptor agonism on learning and memory in a mouse model of photothrombosis (abst – 2013)  
[http://www.fasebj.org/cgi/content/meeting\\_abstract/27/1\\_MeetingAbstracts/1097.4?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad](http://www.fasebj.org/cgi/content/meeting_abstract/27/1_MeetingAbstracts/1097.4?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad)

**O- 2050** - CB 1 antagonist

Suppression of feeding, drinking, and locomotion by a putative cannabinoid receptor 'silent antagonist (abst – 2005)

<http://www.sciencedirect.com/science/article/pii/S0014299905012197>

Hypothalamic 2-arachidonoylglycerol regulates multistage process of high-fat diet preferences. (full – 2012)

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0038609>

Angiotensin II induces vascular endocannabinoid release, which attenuates its vasoconstrictor effect via CB1 cannabinoid receptors. (full – 2012)

<http://www.jbc.org/content/early/2012/07/11/jbc.M112.346296.full.pdf+html>

Structural analogs of pyrazole and sulfonamide cannabinoids: Effects on acute food intake in mice. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22975289>

The complex effects of cannabinoids on insulin secretion from rat isolated islets of Langerhans. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23499687>

**OMDM-2** – blocks the reuptake of endocannabinoids

Novel selective and metabolically stable inhibitors of anandamide cellular uptake

(abst – 2003) <http://www.ncbi.nlm.nih.gov/pubmed/12732359>

In vivo pharmacological actions of two novel inhibitors of anandamide cellular uptake.

(abst – 2004) <http://www.ncbi.nlm.nih.gov/pubmed/14744610>

Development of the first potential covalent inhibitors of anandamide cellular uptake.

(abst – 2006) <http://www.ncbi.nlm.nih.gov/pubmed/16570928>

Effects of endocannabinoid neurotransmission modulators on brain stimulation reward.

(abst – 2006) <http://www.ncbi.nlm.nih.gov/pubmed/16953388>

STUDIES OF ANANDAMIDE ACCUMULATION INHIBITORS IN CEREBELLAR GRANULE NEURONS (full – 2007)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2248273/>

The role of endocannabinoids in the regulation of gastric emptying: alterations in mice fed a high-fat diet. (full – 2008)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2275439/?tool=pubmed>

Neuronal and glial alterations in the cerebellar cortex of maternally deprived rats: gender differences and modulatory effects of two inhibitors of endocannabinoid inactivation. (abst – 2008) <http://www.ncbi.nlm.nih.gov/pubmed/18726913>

Gender-dependent cellular and biochemical effects of maternal deprivation on the hippocampus of neonatal rats: a possible role for the endocannabinoid system. (abst – 2008) <http://www.ncbi.nlm.nih.gov/pubmed/18666205>

Activity-based anorexia in C57/BL6 mice: effects of the phytocannabinoid, Delta9-tetrahydrocannabinol (THC) and the anandamide analogue, OMDM-2. (abst – 2010) <http://www.ncbi.nlm.nih.gov/pubmed/20471226>

A new strategy to block tumor angiogenesis by inhibiting endocannabinoid inactivation (abst – 2013) [http://www.fasebj.org/cgi/content/meeting\\_abstract/27/1\\_MeetingAbstracts/1105.6?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad](http://www.fasebj.org/cgi/content/meeting_abstract/27/1_MeetingAbstracts/1105.6?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad)

The administration of endocannabinoid uptake inhibitors OMDM-2 or VDM-11 promotes sleep and decreases extracellular levels of dopamine in rats. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23238438>

**ORG-27569** - enhances agonist-binding affinity to CB1

Parameterization of Org27569: An allosteric modulator of the cannabinoid CB(1) G protein-coupled receptor. (full – 2011) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3145811/>

Allosteric modulator ORG27569 induces CB1 cannabinoid receptor high affinity agonist binding state, receptor internalization, and Gi protein-independent ERK1/2 kinase activation. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22343625>

A key agonist-induced conformational change in the cannabinoid receptor CB1 is blocked by the allosteric ligand Org 27569. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22846992>

Distinct roles of  $\beta$ -arrestin 1 and  $\beta$ -arrestin 2 in ORG27569-induced biased signaling and internalization of the cannabinoid receptor one (CB1) (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23449980>

**RIMONABANT/ ACOMPLIA/ SR141716/ SR1** – a CB1 & CB2 antagonist

SR141716A, a potent and selective antagonist of the brain cannabinoid receptor.  
(abst – 1994) <http://www.ncbi.nlm.nih.gov/pubmed/8070571>

The CB1 cannabinoid receptor antagonist SR 141716A affects A9 dopamine neuronal activity in the rat. (abst – 1995) <http://www.ncbi.nlm.nih.gov/pubmed/7488739>

Cannabinoids enhance human B-cell growth at low nanomolar concentrations.  
(abst – 1995) <http://www.ncbi.nlm.nih.gov/pubmed/7544292>

Biochemical and pharmacological characterisation of SR141716A, the first potent and selective brain cannabinoid receptor antagonist. (abst – 1995)  
<http://www.ncbi.nlm.nih.gov/pubmed/7776817>

Cannabinoid precipitated withdrawal by the selective cannabinoid receptor antagonist, SR 141716A. (abst – 1995) <http://www.ncbi.nlm.nih.gov/pubmed/7498260>

Activation of peripheral CB1 cannabinoid receptors in haemorrhagic shock.  
(abst – 1997) <http://www.ncbi.nlm.nih.gov/pubmed/9394002>

SR 141716, a CB1 cannabinoid receptor antagonist, selectively reduces sweet food intake in marmoset. (abst – 1998)  
<http://www.ncbi.nlm.nih.gov/sites/entrez/10065938?dopt=Abstract&holding=f1000.f1000m.isrctn>

Anandamide induces overeating: mediation by central cannabinoid (CB1) receptors  
(abst – 1999) <http://link.springer.com/article/10.1007%2Fs002130050953>

The cannabinoid CB1 receptor antagonist SR 141716A reverses the antiemetic and motor depressant actions of WIN 55, 212-2 (abst – 2001)  
<http://www.ncbi.nlm.nih.gov/pubmed/11120402>

Cannabinoid receptor type 1 modulates excitatory and inhibitory neurotransmission in mouse colon (full – 2003)  
<http://ajpgi.physiology.org/content/286/1/G110.full?sid=fc6948f0-78cf-405c-981b-afaa05ee417c>

Anandamide enhances extracellular levels of adenosine and induces sleep: an in vivo microdialysis study. (abst - 2003)  
<http://www.ncbi.nlm.nih.gov/pubmed/14746372?dopt=Abstract>

Overeating, Alcohol and Sucrose Consumption Decrease in Cb1 Receptor Deleted Mice.  
(abst – 2004) <http://www.ncbi.nlm.nih.gov/pubmed/12770700>

Ethanol Induces Higher Bec in Cb1 Cannabinoid Receptor Knockout Mice While Decreasing Ethanol Preference. (full – 2005)  
<http://alcalc.oxfordjournals.org/content/40/1/54.long>

Activation of the Peripheral Endocannabinoid System in Human Obesity (full - 2005)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2228268/?tool=pmcentrez>

Enhancing Cannabinoid Neurotransmission Augments the Extinction of Conditioned Fear (full - 2005) <http://www.nature.com/npp/journal/v30/n3/full/1300655a.html>

The analgesic activity of paracetamol is prevented by the blockade of cannabinoid CB1 receptors (abst – 2005) <http://www.sciencedirect.com/science/article/pii/S0014299905013178>

The Cannabinoid Cb1 Receptor Antagonist Rimonabant Attenuates the Hypotensive Effect of Smoked Marijuana in Male Smokers. (full – 2006)  
<http://www.ahjonline.com/article/S0002-8703%2805%2901013-6/fulltext>

Weight Control in Individuals With Diabetes (full - 2006)  
<http://care.diabetesjournals.org/content/29/12/2749.full?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabis&searchid=1&FIRSTINDEX=2000&resourcetype=HWCIT>

Anxiolytic-like properties of the anandamide transport inhibitor AM404. (full – 2006)  
<http://www.nature.com/npp/journal/v31/n12/full/1301061a.html>

Lack of tolerance to the suppressing effect of rimonabant on chocolate intake in rats. (abst – 2006) <http://www.ncbi.nlm.nih.gov/pubmed/16491428>

Effects of endocannabinoid neurotransmission modulators on brain stimulation reward. (abst – 2006) <http://www.ncbi.nlm.nih.gov/pubmed/16953388>

Acomplia may be dangerous for women of reproductive age (news – 2006)  
[http://www.xagenait/news/medicineneeds\\_net\\_news/1ef4c899cd6f0d5cae3a2ea3a91adc1c.html](http://www.xagenait/news/medicineneeds_net_news/1ef4c899cd6f0d5cae3a2ea3a91adc1c.html)

Obesity – Acomplia: loss of a few kilos, many questions (news – 2006)  
[http://www.xagenait/news/medicineneeds\\_net\\_news/4b5739d494ab72c2a54540e67fc1c856.html](http://www.xagenait/news/medicineneeds_net_news/4b5739d494ab72c2a54540e67fc1c856.html)

Big Pharma's Strange Holy Grail: Cannabis Without Euphoria? (news - 2006)  
<http://www.mapinc.org/drugnews/v06.n899.a05.html>

Cross-sensitization and cross-tolerance between exogenous cannabinoid antinociception and endocannabinoid-mediated stress-induced analgesia (full - 2007)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2771679/?tool=pubmed>

Single and multiple doses of rimonabant antagonize acute effects of smoked cannabis in male cannabis users. (full - 2007)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2689519/?tool=pubmed>

Rimonabant (SR141716) exerts anti-proliferative and immunomodulatory effects in human peripheral blood mononuclear cells (full - 2007)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2267266/?tool=pmcentrez>

Cannabinoid CB1 receptors in the paraventricular nucleus and central control of penile erection: immunocytochemistry, autoradiography and behavioral studies (abst – 2007)  
<http://www.ncbi.nlm.nih.gov/pubmed/17507169>

Rimonabant: safety issues (news – 2007)  
[http://www.xagen.it/news/medicineneeds\\_net\\_news/09a11be6989d5a0e438dd9e589210a79.html](http://www.xagen.it/news/medicineneeds_net_news/09a11be6989d5a0e438dd9e589210a79.html)

European watchdog warns about dangers of Acomplia (news - 2007)  
<http://www.news-medical.net/news/2007/07/21/27891.aspx>

Three Long-Term Diet Pills Show Poor Performance, Study Suggests (news - 2007)  
<http://www.sciencedaily.com/releases/2007/11/071116094804.htm>

FDA Advisory Panel Rejects Obesity Drug (news - 2007)  
<http://firstwatch.jwatch.org/cgi/content/full/2007/615/2?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=2800&resourcetype=HWCIT>

Rimonabant: a rapidly expanding role in the management of metabolic and systemic disorders besides polycystic ovarian syndrome (full – 2008)  
<http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2265.2008.03339.x/pdf>

Differential response to a selective cannabinoid receptor antagonist (SR141716: rimonabant) in female mice from lines selectively bred for high voluntary wheel-running behaviour. (abst – 2008) <http://www.ncbi.nlm.nih.gov/pubmed/19020416>

Caution Urged With New Anti-Obesity Drug In Kids (news - 2008)  
<http://www.sciencedaily.com/releases/2008/05/080507133326.htm>

The psychiatric side-effects of rimonabant. (full – 2009)  
[http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S1516-44462009000200012&lng=en&nrm=iso&tlng=en](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1516-44462009000200012&lng=en&nrm=iso&tlng=en)

Effects of the cannabinoid CB1 receptor antagonist rimonabant on distinct measures of impulsive behavior in rats. (full – 2009)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1915592/?tool=pubmed>

The endocannabinoid system and diabetes - critical analyses of studies conducted with rimonabant (full - 2009)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2770455/?tool=pmcentrez>

Cannabinoids for clinicians: the rise and fall of the cannabinoid antagonists (full – 2009) <http://www.eje-online.org/cgi/content/full/161/5/655?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=160&resourcetype=HWCIT>

Evaluation of Prevalent Phytocannabinoids in the Acetic Acid Model of Visceral Nociception (full – 2009)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2765124/?tool=pubmed>

Systematic review and meta-analysis on the adverse events of rimonabant treatment: Considerations for its potential use in hepatology (full - 2009)  
<http://www.biomedcentral.com/1471-230X/9/75>

Impairments in Endocannabinoid Signaling and Depressive Illness (full – 2009)  
<http://jama.jamanetwork.com/article.aspx?articleid=183558>

Effects of cannabinoid drugs on the reinforcing properties of food in gestationally undernourished rats. (abst – 2009) <http://www.ncbi.nlm.nih.gov/pubmed/19602424>

Endocannabinoids and cardiovascular prevention: real progress? (abst - 2009)  
<http://www.pagepress.org/journals/index.php/hi/article/view/1162>

International Union of Basic and Clinical Pharmacology. LXXIX. Cannabinoid Receptors and Their Ligands: Beyond CB1 and CB2 (full – 2010)  
<http://pharmrev.aspetjournals.org/content/62/4/588.full.pdf+html>

Therapeutical use of the cannabinoids in psychiatry (full – 2010)  
[http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S1516-44462010000500009&lng=en&nrm=iso&tlng=en](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1516-44462010000500009&lng=en&nrm=iso&tlng=en)

GPR55 ligands promote receptor coupling to multiple signalling pathways. (full – 2010) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2931561/?tool=pubmed>

Rehashing endocannabinoid antagonists: can we selectively target the periphery to safely treat obesity and type 2 diabetes? (full – 2010)  
[http://www.jci.org/articles/view/44099?search\[abstract\\_text\]=&search\[article\\_text\]=cannabinoid&search\[authors\\_text\]=&search\[fpage\]=&search\[title\\_text\]=&search\[volume\]=](http://www.jci.org/articles/view/44099?search[abstract_text]=&search[article_text]=cannabinoid&search[authors_text]=&search[fpage]=&search[title_text]=&search[volume]=)

Perspectives of CB1 Antagonist in Treatment of Obesity: Experience of RIO-Asia (full – 2010) <http://www.hindawi.com/journals/jobes/2011/957268/>

Energetic Metabolism and Human Sperm Motility: Impact of CB1 Receptor Activation (full – 2010) <http://endo.endojournals.org/content/151/12/5882.full>

The Effects of Rimonabant on Brown Adipose Tissue in Rat: Implications for Energy Expenditure (full - 2010) <http://www.nature.com/oby/journal/v17/n2/full/oby2008509a.html>

The Endocannabinoid System Tonicly Regulates Inhibitory Transmission and Depresses the Effect of Ethanol in Central Amygdala (abst - 2010)  
<http://www.nature.com/npp/journal/v35/n9/abs/npp201070a.html>

Rimonabant-induced Delta9-tetrahydrocannabinol withdrawal in rhesus monkeys: discriminative stimulus effects and other withdrawal signs. (abst – 2010)  
[http://www.unboundmedicine.com/medline/ebm/record/20375197/abstract/Rimonabant\\_induced\\_Delta9\\_tetrahydrocannabinol\\_withdrawal\\_in\\_rhesus\\_monkeys:\\_discriminative\\_stimulus\\_effects\\_and\\_other\\_withdrawal\\_signs](http://www.unboundmedicine.com/medline/ebm/record/20375197/abstract/Rimonabant_induced_Delta9_tetrahydrocannabinol_withdrawal_in_rhesus_monkeys:_discriminative_stimulus_effects_and_other_withdrawal_signs)

Anxiety-like effects of SR141716-precipitated delta9-tetrahydrocannabinol withdrawal in mice in the elevated plus-maze. (abst – 2010)

[http://www.unboundmedicine.com/medline/ebm/record/20363293/abstract/Anxiety like effects of SR141716 precipitated delta9 tetrahydrocannabinol withdrawal in mice in the elevated plus maze](http://www.unboundmedicine.com/medline/ebm/record/20363293/abstract/Anxiety_like_effects_of_SR141716_precipitated_delta9_tetrahydrocannabinol_withdrawal_in_mice_in_the_elevated_plus_maze)

Reduced neural response to reward following 7 days treatment with the cannabinoid CB1 antagonist rimonabant in healthy volunteers (abst – 2010)

<http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=7873271&fulltextType=RA&fileId=S1461145710000453>

Suicides in other trials led to early termination of trial into effects of weight loss drug rimonabant on cardiovascular outcomes (CRESCENDO study) (news – 2010)

[http://www.eurekalert.org/pub\\_releases/2010-08/1-sio081110.php](http://www.eurekalert.org/pub_releases/2010-08/1-sio081110.php)

Risk of suicide spurs rimonabant trial to end. (news – 2010)

<http://www.thefreelibrary.com/Risk+of+suicide+spurs+rimonabant+trial+to+end.-a0238838571>

Endocannabinoid system protects against cryptogenic seizures. (full – 2011)

[http://www.if-pan.krakow.pl/pjp/pdf/2011/1\\_165.pdf](http://www.if-pan.krakow.pl/pjp/pdf/2011/1_165.pdf)

The role of the cannabinoid system in the pathogenesis and treatment of alcohol dependence (link to PDF – 2011)

<http://www.doaj.org/doi?func=abstract&id=825351&q1=cannabinoid&f1=all&b1=and&q2=&f2=all&recNo=22&uiLanguage=en>

Psychiatric adverse effects of rimonabant in adults with Prader Willi syndrome. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/20965292>

Bioactivation Pathways of the Cannabinoid Receptor 1 Antagonist Rimonabant (abst – 2011)

<http://dmd.aspetjournals.org/content/39/10/1823.abstract?sid=b46844d1-47a7-4474-817e-7e206e5948c8>

Effects of Chronic Oral Rimonabant Administration on Energy Budgets of Diet-Induced Obese C57BL/6 Mice. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/22173576>

The identification of rimonabant polymorphs, sibutramine and analogues of both in counterfeit Acomplia bought on the internet. (abst – 2011)

<http://www.ncbi.nlm.nih.gov/pubmed/20828968>

Pro-epileptic effects of the cannabinoid receptor antagonist SR141716 in a model of audiogenic epilepsy. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21733658>

Pharmacological activation/inhibition of the cannabinoid system affects alcohol withdrawal-induced neuronal hypersensitivity to excitotoxic insults. (abst – 2011)

<http://www.ncbi.nlm.nih.gov/pubmed/21886913>

Antagonist-elicited cannabis withdrawal in humans. (abst – 2011)

<http://www.ncbi.nlm.nih.gov/pubmed/21869692>

Intracellular Cannabinoid Type 1 (CB1) Receptors Are Activated by Anandamide (abst – 2011)

<http://www.jbc.org/content/286/33/29166.abstract?sid=2c3b88ec-b6e6-4245-a171-2e24c17b5e8b>

Effects of the cannabinoid antagonist SR 141716 on sexual and motor behavior in receptive female rats. (abst – 2011)

<http://www.ncbi.nlm.nih.gov/pubmed/21848907>

CB1 -independent mechanisms of  $\Delta(9)$ -THCV, AM251 and SR141716 (rimonabant). (abst – 2011)

<http://www.ncbi.nlm.nih.gov/pubmed/21740450>

CB1 receptors mediate rimonabant-induced pruritic responses in mice: investigation of locus of action. (abst – 2011)

[http://www.unboundmedicine.com/medline/ebm/record/21340468/abstract/CB1\\_receptors\\_mediate\\_rimonabant\\_induced\\_pruritic\\_responses\\_in\\_mice\\_investigation\\_of\\_locus\\_of\\_action](http://www.unboundmedicine.com/medline/ebm/record/21340468/abstract/CB1_receptors_mediate_rimonabant_induced_pruritic_responses_in_mice_investigation_of_locus_of_action)

Chronic  $\Delta^9$ -tetrahydrocannabinol treatment in rhesus monkeys: differential tolerance and cross-tolerance among cannabinoids. (abst – 2011)

[http://www.unboundmedicine.com/medline/ebm/record/21091643/abstract/Chronic\\_%CE%94%E2%81%B9\\_tetrahydrocannabinol\\_treatment\\_in\\_rhesus\\_monkeys\\_differential\\_tolerance\\_and\\_cross\\_tolerance\\_among\\_cannabinoids](http://www.unboundmedicine.com/medline/ebm/record/21091643/abstract/Chronic_%CE%94%E2%81%B9_tetrahydrocannabinol_treatment_in_rhesus_monkeys_differential_tolerance_and_cross_tolerance_among_cannabinoids)

CB1 cannabinoid receptor mediates glucocorticoid effects on hormone secretion induced by volume and osmotic changes. (abst – 2011)

<http://www.ncbi.nlm.nih.gov/pubmed/22211674>

Fatty acid amide hydrolase blockade attenuates the development of collagen-induced arthritis and related thermal hyperalgesia in mice. (abst - 2011)

<http://www.ncbi.nlm.nih.gov/pubmed/21740924>

Naloxone and rimonabant reduce the reinforcing properties of exercise in rats.

(abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21707193>

Smoking marijuana not linked to obesity: study (news – 2011)

<http://www.reuters.com/article/2011/09/09/us-marijuana-obesity-idUSTRE7886TT20110909>

Part of placebo effect ascribed to cannabinoids (news – 2011)

<http://arstechnica.com/science/2011/10/is-the-placebo-effect-partially-caused-by-cannabinoids/>

To Be or Not To Be—Obese (full – 2012)

<http://endo.endojournals.org/content/152/10/3592.long>

Relationships between glucose, energy intake and dietary composition in obese adults with type 2 diabetes receiving the cannabinoid 1 (CB1) receptor antagonist, rimonabant (full – 2012)

<http://www.nutritionj.com/content/11/1/50>

GPR18 in microglia: implications for the CNS and endocannabinoid system signaling

(full – 2012) <http://onlinelibrary.wiley.com/doi/10.1111/j.1476-5381.2012.02019.x/full>

Angiotensin II induces vascular endocannabinoid release, which attenuates its vasoconstrictor effect via CB1 cannabinoid receptors. (full – 2012)

<http://www.jbc.org/content/early/2012/07/11/jbc.M112.346296.full.pdf+html>

The role of CB2 receptor ligands in human eosinophil function (full – 2012)

<http://www.biomedcentral.com/content/pdf/2050-6511-13-S1-A13.pdf>

The cannabinoid receptor CB1 modulates the signaling properties of the lysophosphatidylinositol receptor GPR55. (full – 2012)

<http://www.jbc.org/content/early/2012/11/16/jbc.M112.364109.long>

Rimonabant eliminates responsiveness to workload changes in a time-constrained food-reinforced progressive ratio procedure in rats. (full – 2012)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3387812/>

The inverse agonist effect of rimonabant on G protein activation is not mediated by the cannabinoid CB1 receptor: Evidence from postmortem human brain. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22093909>

Rimonabant reduces the essential value of food in the genetically obese Zucker rat: An exponential demand analysis. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22019829>

Extinction learning of rewards in the rat: is there a role for CB1 receptors?

(abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/21519986>

Cannabinoids ameliorate disease progression in a model of multiple sclerosis in mice, acting preferentially through CB(1) receptor-mediated anti-inflammatory effects.

(abst - 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22342378>

Effects of amphetamine on dopamine release in the rat nucleus accumbens shell region depend on cannabinoid CB1 receptor activation. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22426202>

Anti-obesity effects of the combined administration of CB1 receptor antagonist rimonabant and melanin-concentrating hormone antagonist SNAP-94847 in diet-induced obese mice. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22473329>

Photoperiodic Changes in Endocannabinoid Levels and Energetic Responses to Altered Signalling at CB1 Receptors in Siberian Hamsters (abst – 2012)

<http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2826.2012.02312.x/abstract>

Hypothalamic CB1 Cannabinoid Receptors Regulate Energy Balance in Mice

(abst – 2012)

<http://endo.endojournals.org/content/153/9/4136.abstract?sid=764b5dc2-c88a-4357-b77c-81ea8e04d351>

Induction of Glucose Intolerance by Acute Administration of Rimonabant.

(abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22678147>

Antipsychotic Profile of Cannabidiol and Rimonabant in an Animal Model of Emotional Context Processing in Schizophrenia. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22716146>

Sex Differences in Cannabinoid 1 vs. Cannabinoid 2 Receptor-Selective Antagonism of Antinociception Produced by  $\Delta^9$ -Tetrahydrocannabinol and CP55,940 in the Rat (abst – 2012)

<http://jpet.aspetjournals.org/content/340/3/787.abstract?sid=ae58f15a-06bb-4a81-b850-61bb89fd59f5>

Cannabinoid receptor 1 in the vagus nerve is dispensable for body weight homeostasis but required for normal gastrointestinal motility. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22836266>

Structural analogs of pyrazole and sulfonamide cannabinoids: Effects on acute food intake in mice. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22975289>

Probing the Interaction of SR141716A with the CB1 Receptor. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22995906>

Anandamide regulates the expression of GnRH1, GnRH2, and GnRH-Rs in frog testis (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22669247>

Cannabinoid CB(1) receptor in the modulation of stress coping behaviour in mice: the role of serotonin and different forebrain neuronal subpopulations. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/23000076>

Expression of fatty acid amide hydrolase (FAAH) in human, mouse, and rat urinary bladder and effects of FAAH inhibition on bladder function in awake rats. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/21930339>

Bioactivation of the Cannabinoid Receptor Antagonist Rimonabant to a Cytotoxic Iminium Ion Metabolite. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/23234359>

The effects of fasting duration on gastric emptying in man, an exploration of the role of the endocannabinoid system and inter-individual responsiveness (abst – 2012)

<http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2982.2012.01954.x/abstract>

Pharmacological modulation of the endocannabinoid signalling alters binge-type eating behaviour in female rats (abst – 2012)

<http://onlinelibrary.wiley.com/doi/10.1111/bph.12014/abstract>

Reports of the death of CB1 antagonists have been greatly exaggerated: recent preclinical findings predict improved safety in the treatment of obesity. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22743603>

Fatty acid flux and oxidation are increased by rimonabant in obese women.

(abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22445512>

Probing the Interaction of SR141716A with the CB1 Receptor (abst – 2012)  
<http://www.jbc.org/content/287/46/38741.abstract?sid=ed624bcc-ed4a-490a-acb1-3497d91aecbd>

How Weed Can Protect Us From Cancer and Alzheimer's (book excerpt – 2012)  
[http://www.alternet.org/story/156269/how\\_weed\\_can\\_protect\\_us\\_from\\_cancer\\_and\\_alzheimer%27s](http://www.alternet.org/story/156269/how_weed_can_protect_us_from_cancer_and_alzheimer%27s)

Cannabinoids, Breast Milk, and Development (news – 2012)  
<http://www.examiner.com/article/cannabinoids-breast-milk-and-development>

Ghrelin-Induced Orexigenic Effect in Rats Depends on the Metabolic Status and Is Counteracted by Peripheral CB1 Receptor Antagonism. (full – 2013)  
<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0060918>

Novel Insights Into CB1 Cannabinoid Receptor Signaling: A Key Interaction Identified Between EC3-Loop and TMH2. (full – 2013)  
<http://jpet.aspetjournals.org/content/early/2013/02/21/jpet.112.201046.long>

WIN55, 212-2 promotes differentiation of oligodendrocyte precursor cells and improve remyelination through regulation of the phosphorylation level of the ERK 1/2 via cannabinoid receptor 1 after stroke-induced demyelination. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23148948>

Cannabis and  $\Delta(9)$ -tetrahydrocannabinol (THC) for weight loss? (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23410498>

Stimulatory and Inhibitory Roles of Brain 2-Arachidonoylglycerol in Bombesin-Induced Central Activation of Adrenomedullary Outflow in Rats. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23386378>

Novel antiobesity agents: Synthesis and pharmacological evaluation of analogues of Rimobabant and of LH21. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23434135>

Activation of the sympathetic nervous system mediates hypophagic and anxiety-like effects of CB1 receptor blockade. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23487769>

Cannabinoid signaling and liver therapeutics. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23567085>

Phencyclidine-induced social withdrawal results from deficient stimulation of cannabinoid CB1 receptors: implications for schizophrenia. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23563893>

Additive effect of rimobabant and citalopram on extracellular serotonin levels monitored with in vivo microdialysis in rat brain. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23562616>

The inverse agonist of CB1 receptor SR141716 blocks compulsive eating of palatable food. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23587012>

Effects of CB1 receptor blockade on monosodium glutamate induced hypometabolic and hypothalamic obesity in rats. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23620336>

Synergetic Insulin Sensitizing Effect of Rimonabant and BGP-15 in Zucker-Obes Rats. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23640247>

Infusion of cannabidiol into infralimbic cortex facilitates fear extinction via CB1 receptors. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23643693>

Effects of the cannabinoid 2 receptor-selective agonist GW405833 in assays of acute pain-stimulated and paindepressed behavior in rats (abst – 2013)  
[http://www.fasebj.org/cgi/content/meeting\\_abstract/27/1\\_MeetingAbstracts/886.9?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad](http://www.fasebj.org/cgi/content/meeting_abstract/27/1_MeetingAbstracts/886.9?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad)

Sex differences in anti-allodynic, anti-hyperalgesic and anti-edema effects of  $\Delta^9$ -tetrahydrocannabinol in the rat. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23707295>

Blockade of cannabinoid receptors reduces inflammation, leukocyte accumulation and neovascularization in a model of sponge-induced inflammatory angiogenesis. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23722450>

Dysregulation of Cannabinoid CB1 Receptor and Associated Signaling Networks in Brains of Cocaine Addicts and Cocaine-Treated Rodents. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23727505>

Rimonabant precipitates anxiety in rats withdrawn from palatable food: role of the central amygdale. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23793355>

The Role of the Endocannabinoid System in Eating Disorders: Neurochemical and Behavioural Preclinical Evidence. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23829365>

Low dose naloxone attenuates the pruritic but not anorectic response to rimonabant in male rats (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23142959>

CB1 agonists, locally applied to the cortico-thalamic circuit of rats with genetic absence epilepsy, reduce epileptic manifestations. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23860329>

New therapy for fragile X chromosome syndrome discovered (news – 2013)  
[http://www.sciencecodex.com/new\\_therapy\\_for\\_fragile\\_x\\_chromosome\\_syndrome\\_discovered-110170](http://www.sciencecodex.com/new_therapy_for_fragile_x_chromosome_syndrome_discovered-110170)

**R(+)-METHANANANDAMIDE** – anandamide analog

(R)-methanandamide: a chiral novel anandamide possessing higher potency and metabolic stability (abst – 1994) <http://www.ncbi.nlm.nih.gov/pubmed/8021930>

Cannabinoids might reduce spasticity in multiple sclerosis (full - 2000) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1117698/?tool=pmcentrez>

Endogenous cannabinoids improve myocardial resistance to arrhythmogenic effects of coronary occlusion and reperfusion: a possible mechanism. (abst - 2002) [http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Retrieve&list\\_uids=12428277&dopt=abstractplus](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Retrieve&list_uids=12428277&dopt=abstractplus)

Anandamide and R-(+)-methanandamide prevent development of ischemic and reperfusion arrhythmia in rats by stimulation of CB2-receptors (abst – 2002) <http://www.ncbi.nlm.nih.gov/pubmed/12227101>

CANNABINOIDS ALTER RECOGNITION MEMORY IN RATS (full – 2003) [http://www.if-pan.krakow.pl/pjp/pdf/2003/5\\_903.pdf](http://www.if-pan.krakow.pl/pjp/pdf/2003/5_903.pdf)

Up-Regulation of Cyclooxygenase-2 Expression Is Involved in R(-)-Methanandamide-Induced Apoptotic Death of Human Neuroglioma Cells (full - 2004) <http://science.iowamedicalmarijuana.org/pdfs/cancer/Hinz%202004.pdf>

Cannabinoid Receptor-Mediated Apoptosis Induced by R(+)-Methanandamide and Win55,212-2 Is Associated with Ceramide Accumulation and p38 Activation in Mantle Cell Lymphoma (full - 2006) <http://molpharm.aspetjournals.org/content/70/5/1612.full>

R(+)-methanandamide and other cannabinoids induce the expression of cyclooxygenase-2 and matrix metalloproteinases in human nonpigmented ciliary epithelial cells. (full – 2006) <http://jpet.aspetjournals.org/content/316/3/1219.long>

Differential effect of cannabinoid agonists and endocannabinoids on histamine release from distinct regions of the rat brain. (full – 2006) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1769340/?tool=pubmed>

R(+)-methanandamide elicits a cyclooxygenase-2-dependent mitochondrial apoptosis signaling pathway in human neuroglioma cells. (abst – 2006) <http://www.springerlink.com/content/140343111728x733/>

Loss of cannabinoid receptor 1 accelerates intestinal tumor growth (full - 2008) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2561258/?tool=pubmed>

Cannabinoids enhance gastric X/A-like cells activity. (full – 2008) <http://czasopisma.viamedica.pl/fhc/article/view/4436/3691>

Expression of cannabinoid receptors type 1 and type 2 in non-Hodgkin lymphoma: growth inhibition by receptor activation. (full – 2008) <http://onlinelibrary.wiley.com/doi/10.1002/ijc.23584/full>

Inhibition of human tumour prostate PC-3 cell growth by cannabinoids R(+)-Methanandamide and JWH-015: Involvement of CB2 (full - 2009)  
<http://www.nature.com/bjc/journal/v101/n6/full/6605248a.html>

Potential of cannabinoid-induced cytotoxicity in mantle cell lymphoma through modulation of ceramide metabolism. (full - 2009)  
<http://mcr.aacrjournals.org/content/7/7/1086.long>

Cannabinoid Receptor Activation Protects Coronary Endothelium Against Reperfusion Induced Intercellular Gap Formation in a Cellular Model of Ischemia and Reperfusion (abst - 2009)  
[http://circ.ahajournals.org/cgi/content/meeting\\_abstract/120/18\\_MeetingAbstracts/S1072-c?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=720&resourcetype=HWCIT](http://circ.ahajournals.org/cgi/content/meeting_abstract/120/18_MeetingAbstracts/S1072-c?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=720&resourcetype=HWCIT)

The cannabinoid R+ methanandamide induces IL-6 secretion by prostate cancer PC3 cells. (abst - 2009) <http://www.ncbi.nlm.nih.gov/pubmed/19908944>

R(+)-methanandamide-induced apoptosis of human cervical carcinoma cells involves a cyclooxygenase-2-dependent pathway. (abst - 2009)  
<http://www.ncbi.nlm.nih.gov/pubmed/19015962>

Energetic Metabolism and Human Sperm Motility: Impact of CB1 Receptor Activation (full - 2010) <http://endo.endojournals.org/content/151/12/5882.full>

Anandamide capacitates bull spermatozoa through CB1 and TRPV1 activation. (full - 2011) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3037938/?tool=pubmed>

Pharmacological elevation of anandamide impairs short-term memory by altering the neurophysiology in the hippocampus. (abst - 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21767554>

Cannabidiol inhibits lung cancer cell invasion and metastasis via intercellular adhesion molecule-1. (abst - 2011) <http://www.ncbi.nlm.nih.gov/pubmed/22198381>

Effects of Cannabinoid Agonists on Sheep Sphincter of Oddi in vitro. (abst - 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21921665>

Anandamide Induces Sperm Release from Oviductal Epithelia through Nitric Oxide Pathway in Bovines. (full - 2012)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3281848/?tool=pubmed>

Neonatal DSP-4 Treatment Modifies Antinociceptive Effects of the CB(1) Receptor Agonist Methanandamide in Adult Rats. (full - 2012)  
<http://www.springerlink.com/content/d44543844w814p33/fulltext.html>

GPR18 in microglia: implications for the CNS and endocannabinoid system signaling (full - 2012) <http://onlinelibrary.wiley.com/doi/10.1111/j.1476-5381.2012.02019.x/full>

Contrasting effects of different cannabinoid receptor ligands on mouse ingestive behavior (abst – 2012)

[http://www.unboundmedicine.com/medline/ebm/record/22772336/abstract/Contrasting\\_effects\\_of\\_different\\_cannabinoid\\_receptor\\_ligands\\_on\\_mouse\\_ingestive\\_behaviour](http://www.unboundmedicine.com/medline/ebm/record/22772336/abstract/Contrasting_effects_of_different_cannabinoid_receptor_ligands_on_mouse_ingestive_behaviour)

Long-term treatment with methanandamide attenuates LPS-induced periodontitis in rats.

(abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22581275>

Diuretic effects of cannabinoids. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/23019138>

Uncovering a role for endocannabinoid signaling in autophagy in preimplantation mouse embryos (abst – 2012) <http://molehr.oxfordjournals.org/content/19/2/93.abstract>

Activation of Type 1 Cannabinoid Receptor (CB1R) Promotes Neurogenesis in Murine Subventricular Zone Cell Cultures (full – 2013)

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0063529>

Role of cannabinoid and vanilloid receptors in invasion of human breast carcinoma cells

(abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23394450>

A new strategy to block tumor angiogenesis by inhibiting endocannabinoid inactivation (abst – 2013)

[http://www.fasebj.org/cgi/content/meeting\\_abstract/27/1\\_MeetingAbstracts/1105.6?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad](http://www.fasebj.org/cgi/content/meeting_abstract/27/1_MeetingAbstracts/1105.6?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad)

Anandamide modulates human sperm motility: implications for men with asthenozoospermia and oligoasthenoteratozoospermia. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23697839>

Activation of Type 1 Cannabinoid Receptor (CB1R) Promotes Neurogenesis in Murine Subventricular Zone Cell Cultures. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23704915>

## **RWJ 400065 -**

Control of spasticity in a multiple sclerosis model is mediated by CB1, not CB2, cannabinoid receptors. (full - 2007)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2189718/?tool=pubmed>

**S-444823** –CB1 & CB2 agonist

Discovery of S-444823, a potent CB1/CB2 dual agonist as an antipruritic agent.  
(abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22421019>

**SPICE** various synthetic cannabinoid mixtures - also see the HU, JWH, and CP series

Withdrawal Phenomena and Dependence Syndrome After the Consumption of "Spice Gold" (full - 2009) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2719097/?tool=pmcentrez>

Spice: a never ending story? (abst – 2009) <http://www.ncbi.nlm.nih.gov/pubmed/19589652>

Synthetic cannabis mimic found in herbal incense (news – 2009)  
<http://www.rsc.org/chemistryworld/News/2009/January/15010901.asp>

Pharmacological properties and dependence liabilities of synthetic cannabinoids  
(abst – 2010)  
[http://www.unboundmedicine.com/medline/ebm/record/20681249/abstract/%5BPharmacological\\_properties\\_and\\_dependence\\_liabilities\\_of\\_synthetic\\_cannabinoids%5D](http://www.unboundmedicine.com/medline/ebm/record/20681249/abstract/%5BPharmacological_properties_and_dependence_liabilities_of_synthetic_cannabinoids%5D)

Chemical analysis of synthetic cannabinoids as designer drugs in herbal products.  
(abst – 2010) <http://www.ncbi.nlm.nih.gov/pubmed/20117892>

Spice drugs as a new trend: mode of action, identification and legislation. (abst – 2010)  
<http://www.ncbi.nlm.nih.gov/pubmed/20566335>

Monitoring of herbal mixtures potentially containing synthetic cannabinoids as psychoactive compounds. (abst – 2010) <http://www.ncbi.nlm.nih.gov/pubmed/20857386>

Inhaled Incense “K2” May Cause Heart Damage (news – 2010)  
<http://drwes.blogspot.com/2010/08/inhaled-incense-k2-may-cause-heart.html>

The New Cannabinoids (news – 2010)  
<http://www.wellsphere.com/drug-addiction-article/the-new-cannabinoids/1247426>

Marijuana-based Drugs: Innovative Therapeutics or Designer Drugs of Abuse?  
(full – 2011) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3139381/?tool=pubmed>

Beyond THC: The New Generation of Cannabinoid Designer Drugs. (full – 2011)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3187647/?tool=pubmed>

Investigating a not-so-natural high. (full – 2011)  
<http://pubs.acs.org/doi/full/10.1021/ac900564u>

Convulsions Associated with the Use of a Synthetic Cannabinoid Product. (full – 2011)  
<http://www.springerlink.com/content/9651q2672027n38g/fulltext.html>

Psychosis Associated With Synthetic Cannabinoid Agonists: A Case Series  
(letter – 2011) <http://ajp.psychiatryonline.org/cgi/content/full/168/10/1119>

The "new" marijuana. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21325097>

Liquid chromatography-tandem mass spectrometry analysis of urine specimens for K2  
(JWH-018) metabolites. (abst– 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21871158>

The impact of changes in UK classification of the synthetic cannabinoid receptor agonists  
in 'Spice'. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21482092>

Synthetic cannabinoid use in New Zealand: a brief evaluation of inquiries to the New  
Zealand National Poisons Centre (abst – 2011)  
<http://journal.nzma.org.nz/journal/124-1347/5004/>

Severe toxicity following synthetic cannabinoid ingestion. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21970775>

The emergence and analysis of synthetic cannabinoids. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21337724>

Use of high-resolution accurate mass spectrometry to detect reported and previously  
unreported cannabinomimetics in "herbal high" products. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/20529459>

"Spice" girls: synthetic cannabinoid intoxication. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21167669>

Three cases of "spice" exposure. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21740143>

"Legal highs" - new players in the old drama. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21711229>

Comparison of "herbal highs" composition. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21318244>

Synthetic cannabinoid use: a case series of adolescents. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21939863>

Myocardial Infarction Associated With Use of the Synthetic Cannabinoid K2.  
(abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/22065271>

Cytotoxicity of synthetic cannabinoids found in "Spice" products: the role of cannabinoid  
receptors and the caspase cascade in the NG 108-15 cell line. (abst – 2011)

[http://www.unboundmedicine.com/medline/ebm/record/21907772/abstract/Cytotoxicity\\_of\\_synthetic\\_cannabinoids\\_found\\_in\\_%22Spice%22\\_products:\\_the\\_role\\_of\\_cannabinoid\\_receptors\\_and\\_the\\_caspase\\_cascade\\_in\\_the\\_NG\\_108\\_15\\_cell\\_line](http://www.unboundmedicine.com/medline/ebm/record/21907772/abstract/Cytotoxicity_of_synthetic_cannabinoids_found_in_%22Spice%22_products:_the_role_of_cannabinoid_receptors_and_the_caspase_cascade_in_the_NG_108_15_cell_line)

High-performance sport, marijuana, and cannabimimetics. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/22080902>

Effects of synthetic cannabinoids on electroencephalogram power spectra in rats.  
(abst – 2011)  
[http://www.unboundmedicine.com/medline/ebm/record/21640532/abstract/Effects\\_of\\_synthetic\\_cannabinoids\\_on\\_electroencephalogram\\_power\\_spectra\\_in\\_rats](http://www.unboundmedicine.com/medline/ebm/record/21640532/abstract/Effects_of_synthetic_cannabinoids_on_electroencephalogram_power_spectra_in_rats)

Marijuana-based drugs: innovative therapeutics or designer drugs of abuse?  
(abst – 2011)  
[http://www.unboundmedicine.com/medline/ebm/record/21441120/abstract/Marijuana\\_based\\_drugs:\\_innovative\\_therapeutics\\_or\\_designer\\_drugs\\_of\\_abuse](http://www.unboundmedicine.com/medline/ebm/record/21441120/abstract/Marijuana_based_drugs:_innovative_therapeutics_or_designer_drugs_of_abuse)

Detection of synthetic cannabinoids in herbal incense products. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21741374>

Synthetic cannabinoids--the new "legal high" drugs (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/22352277>

1 in 9 high school seniors using synthetic marijuana (news – 2011)  
<http://thechart.blogs.cnn.com/2011/12/14/1-in-9-high-school-seniors-using-synthetic-marijuana/>

Texas teens had heart attacks after smoking K2 (news – 2011)  
<http://www.reuters.com/article/2011/11/07/us-teens-heart-attacks-smoking-idUSTRE7A66TN20111107>

Chemicals Used in "Spice" and "K2" Type Products Now Under Federal Control and Regulation (news – 2011) <http://www.justice.gov/dea/pubs/pressrel/pr030111.html>

Synthetic cannabis linked to extended psychosis (news – 2011)  
<http://medicalxpress.com/news/2011-05-synthetic-cannabis-linked-psychosis.html>

A Characterization of Synthetic Cannabinoid Exposures Reported to the National Poison Data System in 2010 (full – 2012)  
<http://www.annemergmed.com/webfiles/images/journals/ymem/FA-cohoyte.pdf>

Acute mental disturbance caused by synthetic cannabinoid: a potential emerging substance of abuse in Hong Kong. (full – 2012)  
[http://easap.asia/journal\\_file/1201\\_V22N1\\_p31.pdf](http://easap.asia/journal_file/1201_V22N1_p31.pdf)

Characterization of In Vitro Metabolites of CP 47,497, a Synthetic Cannabinoid, in Human Liver Microsomes by LC-MS/MS. (full – 2012)  
<http://onlinelibrary.wiley.com/doi/10.1111/j.1556-4029.2012.02261.x/full>

Using dopamine research to generate rational cannabinoid drug policy. (full – 2012)  
<http://onlinelibrary.wiley.com/doi/10.1002/dta.1410/full>

Synthetic legal intoxicating drugs: The emerging 'incense' and 'bath salt' phenomenon (full – 2012)

[http://www.cjcm.org/content/79/4/258.abstract?ijkey=5c626a27db768c92b048d2d30e94a1a6421fe767&keytype2=tf\\_ipsecsha](http://www.cjcm.org/content/79/4/258.abstract?ijkey=5c626a27db768c92b048d2d30e94a1a6421fe767&keytype2=tf_ipsecsha)

Acute Intoxication Caused by a Synthetic Cannabinoid in Two Adolescents

(full – 2012) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3470439/>

A survey study to characterize use of Spice products (synthetic cannabinoids).

(abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/21835562>

Identification and structural characterization of the synthetic cannabinoid 3-(1-adamantoyl)-1-pentylindole as an additive in 'herbal incense'. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22359329>

Headache after substance abuse: A diagnostic dilemma. (abst - 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22245279>

Synthetic cannabinoid use: recognition and management. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22418399>

Detection and disposition of JWH-018 and JWH-073 in mice after exposure to "Magic Gold" smoke. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22405481>

Spice drugs are more than harmless herbal blends: A review of the pharmacology and toxicology of synthetic cannabinoids. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22561602>

"Spice" and "k2" herbal highs: a case series and systematic review of the clinical effects and biopsychosocial implications of synthetic cannabinoid use in humans. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22691010>

Detection and quantification of new designer drugs in human blood: part 1 - synthetic cannabinoids. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22593567>

Spice: a new "legal" herbal mixture abused by young active duty military personnel.

(abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22489593>

Monohydroxylated metabolites of the K2 synthetic cannabinoid JWH-073 retain intermediate to high cannabinoid 1 receptor (CB1R) affinity and exhibit neutral antagonist to partial agonist activity. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22266354>

Analysis of 30 synthetic cannabinoids in serum by liquid chromatography-electrospray ionization tandem mass spectrometry after liquid-liquid extraction (abst – 2012)

<http://onlinelibrary.wiley.com/doi/10.1002/jms.3020/abstract>

Simultaneous analysis of several synthetic cannabinoids, THC, CBD and CBN, in hair by ultra-high performance liquid chromatography tandem mass spectrometry. Method validation and application to real samples. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22576873>

Risky Recreation: Synthetic Cannabinoids Have Dangerous Effects. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22801822>

The spice in France: mixed herbs containing synthetic cannabinoids. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22796613>

Internet Highs-Seizures After Consumption of Synthetic Cannabinoids Purchased Online.

(abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22824736>

Prevalence of Synthetic Cannabinoids in U.S. Athletes: Initial Findings.

(abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22872465>

Synthetic cannabinoid and marijuana exposures reported to poison centers. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22859662>

Ultra high performance liquid chromatography-electrospray ionization-tandem mass spectrometry screening method for direct analysis of designer drugs, "spice" and stimulants in oral fluid.

(abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22939380>

First European case of convulsions related to analytically confirmed use of the synthetic cannabinoid receptor agonist AM-2201. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22936123>

Synthetic Cannabinoid Intoxication: A Case Series and Review. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22989695>

Synthetic Cannabinoid and Cathinone Use Among US Soldiers. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/23007932>

Adolescent Synthetic Cannabinoid Exposures Reported to Texas Poison Centers.

(abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/23023462>

URB-754: A new class of designer drug and 12 synthetic cannabinoids detected in illegal products. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/23063179>

DNA sequence analyses of blended herbal products including synthetic cannabinoids as designer drugs.

(abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/23092848>

Identification, extraction and quantification of the synthetic cannabinoid JWH-018 from commercially available herbal marijuana alternatives. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/23092847>

Inhalation exposure to smoke from synthetic "marijuana" produces potent cannabimimetic effects in mice. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22776442>

Determination of 22 synthetic cannabinoids in human hair by liquid chromatography-tandem mass spectrometry. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22835826>

Synthetic cannabinoids in "spice-like" herbal blends: first appearance of JWH-307 and recurrence of JWH-018 on the German market. (abst - 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22748479>

Patterns of synthetic cannabinoid use in Australia (abst – 2012)

<http://onlinelibrary.wiley.com/doi/10.1111/j.1465-3362.2012.00519.x/abstract>

Determination of naphthalen-1-yl-(1-pentylindol-3-yl)methanone (JWH-018) in mouse blood and tissue after inhalation exposure to 'buzz' smoke by HPLC/MS/MS

(abst – 2012) <http://onlinelibrary.wiley.com/doi/10.1002/bmc.2710/abstract>

Synthetic cannabis and respiratory depression. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/23234589>

AKI Associated with Synthetic Cannabinoids: A Case Series. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/23243266>

"K2," "Spice," and "Bath Salts" - The In-Vogue Recreational Drugs - What the

Intensivists Need to Know. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/23699371>

Synthetic cannabis (abst – 2012) [http://tidsskriftet.no/article/2896636/en\\_GB](http://tidsskriftet.no/article/2896636/en_GB)

Spicing Up the Differential for Cyclic Vomiting: A Case of Synthetic-Cannabinoid Induced Hyperemesis Syndrome (CH) (abst – 2012)

[http://d2j7fjepcxuj0a.cloudfront.net/wp-content/uploads/2012/10/ACG2012\\_Poster83.pdf](http://d2j7fjepcxuj0a.cloudfront.net/wp-content/uploads/2012/10/ACG2012_Poster83.pdf)

'Hammer Head' 'incense' blamed for seizure of youth in Le Roy (news – 2012)

<http://thebatavian.com/howard-owens/hammer-head-incense-blamed-seizure-youth-le-roy/29983>

Synthetic marijuana was created strictly for research at Clemson (news – 2012)

<http://www.timesnews.net/article/9042095/synthetic-marijuana-was-created-strictly-for-research-at-clemson>

Outbreak of kidney failure in Wyoming linked to "Spice" (news – 2012)

<http://www.reuters.com/article/2012/03/03/us-spice-illness-wyoming-idUSTRE82204T20120303>

'Spice'-y Party Drugs Can Lead to the ED (news – 2012)

<http://www.medpagetoday.com/EmergencyMedicine/EmergencyMedicine/32690>

Wyoming kidney failure outbreak linked to designer 'blueberry spice' drug, aka 'legal marijuana' (news – 2012)

[http://www.naturalnews.com/035181\\_spice\\_recreational\\_drugs\\_kidney\\_failure.html](http://www.naturalnews.com/035181_spice_recreational_drugs_kidney_failure.html)

Blueberry “spice” in Wyoming linked to cases of renal failure (news – 2012)  
<http://www.thepoisonreview.com/2012/03/03/blueberry-spice-in-wyoming-linked-to-cases-of-renal-failure/>

New health concerns about 'fake pot' in US (news – 2012)  
<http://medicalxpress.com/news/2012-03-health-fake-pot.html>

Tachycardia followed by bradycardia after smoking the synthetic cannabinoid “K9”  
(news – 2012) <http://www.thepoisonreview.com/2012/05/22/tachycardia-followed-by-bradycardia-after-smoking-the-synthetic-cannabinoid-k9/>

Synthetic marijuana sent more than 11,400 people to ER in 2010 (news – 2012)  
[http://www.cbsnews.com/8301-204\\_162-57557080/synthetic-marijuana-sent-more-than-11400-people-to-er-in-2010/](http://www.cbsnews.com/8301-204_162-57557080/synthetic-marijuana-sent-more-than-11400-people-to-er-in-2010/)

Screening for synthetic cannabinoids in hair by using LC-QTOF MS: A new and powerful approach to study the penetration of these new psychoactive substances in the population. (full – 2013)  
<http://msl.sagepub.com/content/early/2013/06/28/0025802413477396.long>

Acute Kidney Injury Associated with Synthetic Cannabinoid Use — Multiple States, 2012 (report – 2013) <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6206a1.htm>

Getting up to speed with the public health and regulatory challenges posed by new psychoactive substances in the information age (editorial – 2013)  
<http://onlinelibrary.wiley.com/doi/10.1111/add.12287/full>

Synthetic Cannabinoids -The Challenges of Testing for Designer Drugs  
(article – 2013)  
<http://www.aacc.org/publications/cln/2013/february/Pages/Cannabinoids.aspx?PassThru=ok&PersonID=206339#>

Suicidal ideation and self-harm following K2 use. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23304900>

Synthetic cannabis: A comparison of patterns of use and effect profile with natural cannabis in a large global sample. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23291209>

Prevalence of new designer drugs and their legal status in Japan. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23292017>

Synthetic Cannabinoid Overdose in a 20-Year-Old Male US Soldier. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23327506>

Kronic hysteria: Exploring the intersection between Australian synthetic cannabis legislation, the media, and drug-related harm. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23333135>

Identification and Structural Elucidation of Four Cannabimimetic Compounds (RCS-4, AM-2201, JWH-203 and JWH-210) in Seized Products. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23339188>

Symptoms, toxicities, and analytical results for a patient after smoking herbs containing the novel synthetic cannabinoid MAM-2201 (abst – 2013)  
<http://link.springer.com/article/10.1007/s11419-012-0166-1>

Effects of acute detoxification of the herbal blend 'Spice Gold' on dopamine D2/3 receptor availability: A [18F]fallypride PET study. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23452563>

Psychosis and Severe Rhabdomyolysis Associated with Synthetic Cannabinoid Use. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23518784>

High Times, Low Sats: Diffuse Pulmonary Infiltrates Associated with Chronic Synthetic Cannabinoid Use. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23539384>

Human metabolites of synthetic cannabinoids JWH-018 and JWH-073 bind with high affinity and act as potent agonists at cannabinoid type-2 receptors. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23537664>

LC/ESI-MS/MS method for quantification of 28 synthetic cannabinoids in neat oral fluid and its application to preliminary studies on their detection windows. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23535743>

The Synthetic Cannabinoid Withdrawal Syndrome. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23609214>

Driving under the influence of synthetic cannabinoids ("Spice"): a case series. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23636569>

Electroconvulsive Therapy (ECT) for Catatonia in a Patient With Schizophrenia and Synthetic Cannabinoid Abuse: A Case Report. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23670023>

The omega and omega-1 monohydroxyl metabolites of the abused K2/Spice synthetic cannabinoids JWH-018 and JWH-073 bind with high affinity and act as agonists at human cannabinoid 2 receptors (hCB2s) (abst – 2013)  
[http://www.fasebj.org/cgi/content/meeting\\_abstract/26/1\\_MeetingAbstracts/660.8?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad](http://www.fasebj.org/cgi/content/meeting_abstract/26/1_MeetingAbstracts/660.8?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad)

Effect and occurrence of synthetic cannabinoids (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23736196>

Synthetic cannabinoids and potential reproductive consequences. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23827241>

K2 Toxicity: Fatal Case of Psychiatric Complications Following AM2201 Exposure.

(abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23822805>

Hospitalisation associated with use of the synthetic cannabinoid K2. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23831873>

Smart drugs: green shuttle or real drug? (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23842669>

"Herbal incense": Designer drug blends as cannabimimetics and their assessment by drug discrimination and other in vivo bioassays. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23891559>

A Case of Cannabinoid Hyperemesis Syndrome Caused by Synthetic Cannabinoids.  
(abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23890687>

Teen narrowly escapes death after smoking synthetic marijuana (news – 2013)  
<http://www.cnn.com/2013/02/04/health/synthetic-marijuana-irpt/index.html?iref=allsearch>

Synthetic Marijuana Dangerous for Kidneys (news – 2013)  
<http://www.sciencedaily.com/releases/2013/02/130208124553.htm>

Study: Consumers Prefer Natural Cannabis Over Synthetic 'Marijuana' Herbal Products  
(news – 2013)  
<http://norml.org/news/2013/01/10/study-consumers-prefer-natural-cannabis-over-synthetic-marijuana-herbal-products>

Synthetic Marijuana Harms Kidneys of 16 Users, CDC Reports (news - 2013)  
<http://news.yahoo.com/synthetic-marijuana-harms-kidneys-16-users-cdc-reports-170208780.html>

Synthetic cannabis: how it's made, what's in it (news – 2013)  
<http://www.3news.co.nz/Synthetic-cannabis-how-its-made-whats-in-it/tabid/423/articleID/297471/Default.aspx>

Death link to synthetic cannabis (news – 2013)  
[http://www.nzherald.co.nz/nz/news/article.cfm?c\\_id=1&objectid=10882473&ref=rss](http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10882473&ref=rss)

Synthetic drugs carry risk of kidney damage (news – 2013)  
<http://www.stuff.co.nz/timaru-herald/news/8558914/Synthetic-drugs-carry-risk-of-kidney-damage>

High K2 use rate among psych unit patients (news – 2013)  
<http://www.odt.co.nz/news/national/262756/high-k2-use-rate-among-psych-unit-patients>

'Legal high' users turn to real thing (news – 2013)  
<http://www.odt.co.nz/news/national/266889/legal-high-users-turn-real-thing>

**SR-144528** - CB(2) receptor antagonist

N-arachidonoyl--serine is neuroprotective after traumatic brain injury by reducing apoptosis (full – 2011) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3170948/>

The effects of peptide and lipid endocannabinoids on arthritic pain at the spinal level. (full – 2012) <http://www.anesthesia-analgesia.org/content/early/2012/03/26/ANE.0b013e31824c4eeb.full.pdf>

Stabilization of Functional Recombinant Cannabinoid Receptor CB2 in Detergent Micelles and Lipid Bilayers (full – 2013) <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0046290>

Novel antiobesity agents: Synthesis and pharmacological evaluation of analogues of Rimonabant and of LH21. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23434135>

Characterisation of cannabinoid-induced relief of neuropathic pain in a rat model of cisplatin-induced neuropathy. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23454533>

Effects of the cannabinoid 2 receptor-selective agonist GW405833 in assays of acute pain-stimulated and paindepressed behavior in rats (abst – 2013) [http://www.fasebj.org/cgi/content/meeting\\_abstract/27/1\\_MeetingAbstracts/886.9?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad](http://www.fasebj.org/cgi/content/meeting_abstract/27/1_MeetingAbstracts/886.9?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad)

Sex differences in anti-allodynic, anti-hyperalgesic and anti-edema effects of  $\Delta$ 9-tetrahydrocannabinol in the rat. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23707295>

Blockade of cannabinoid receptors reduces inflammation, leukocyte accumulation and neovascularization in a model of sponge-induced inflammatory angiogenesis. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23722450>

**SURINABANT** - CB1 antagonist

Surinabant, a selective CB(1) antagonist, inhibits THC-induced central nervous system and heart rate effects in humans. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23278647>

**TAK- 875** - GPR- 40 agonist

TAK-875, an orally available G protein-coupled receptor 40/free fatty acid receptor 1 agonist, enhances glucose-dependent insulin secretion and improves both postprandial and fasting hyperglycemia in type 2 diabetic rats. (abst – 2011)

<http://www.ncbi.nlm.nih.gov/pubmed/21752941>

Takeda moves potential first-in-class diabetes drug into phase III (news – 2011)

<http://www.pharmafile.com/news/166980/takeda-diabetes-tak-875-phase-iii>

A Multiple-Ascending-Dose Study to Evaluate Safety, Pharmacokinetics, and Pharmacodynamics of a Novel GPR40 Agonist, TAK-875, in Subjects With Type 2 Diabetes. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22669289>

Optimization of (2,3-dihydro-1-benzofuran-3-yl)acetic acids: discovery of a non-free fatty acid-like, highly bioavailable G protein-coupled receptor 40/free fatty acid receptor 1 agonist as a glucose-dependent insulinotropic agent. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22490067>

TAK-875 versus placebo or glimepiride in type 2 diabetes mellitus: a phase 2, randomised, double-blind, placebo-controlled trial. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22374408>

### **TAK -937** - CB1 & CB2 agonist

Contribution of Hypothermia and CB(1) Receptor Activation to Protective Effects of TAK-937, a Cannabinoid Receptor Agonist, in Rat Transient MCAO Model.

(full– 2012) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3397930/?tool=pubmed>

Cerebroprotective effects of TAK-937, a cannabinoid receptor agonist, on ischemic brain damage in middle cerebral artery occluded rats and non-human primates. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22119394>

Cerebroprotective effects of TAK-937, a novel cannabinoid receptor agonist, in permanent and thrombotic focal cerebral ischemia in rats: Therapeutic time window, combination with t-PA and efficacy in aged rats. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23791950>

### **URB-447** – CB1 antagonist

Endocannabinoid signaling in the gut mediates preference for dietary unsaturated fats.

(abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23463697>

**URB - 597 / KDS-4103** - slows cannabinoid destruction in the body, not the brain.

Marijuana's Distant Relative May Be The Next Prozac; Chemical Reduces Anxiety Using Novel Nerve System In Body (news - 2002)

<http://www.sciencedaily.com/releases/2002/12/021202071928.htm>

Cannabis' Potential Exciting Researchers in Treatment of ALS, Parkinson's Disease -

URB597 (news - 2004)

[http://www.illinoisnorml.org/index2.php?option=com\\_content&do\\_pdf=1&id=104](http://www.illinoisnorml.org/index2.php?option=com_content&do_pdf=1&id=104)

Antidepressant-like Activity and Modulation of Brain Monoaminergic Transmission by Blockade of Anandamide Hydrolysis. (full - 2005)

<http://www.pnas.org/content/102/51/18620.long>

Depression: URB597 increases endocannabinoids in brain (news - 2005)

[http://www.xagen.it/news/medicinews\\_net\\_news/158388770a41292b277c199ca8d95ccf.html](http://www.xagen.it/news/medicinews_net_news/158388770a41292b277c199ca8d95ccf.html)

Blocking the destruction of endocannabinoids (news - 2005)

<http://arstechnica.com/science/2005/12/2106/>

Effects of endocannabinoid neurotransmission modulators on brain stimulation reward.

(abst - 2006) <http://www.ncbi.nlm.nih.gov/pubmed/16953388>

The Endogenous Cannabinoid Anandamide Produces  $\delta$ -9-Tetrahydrocannabinol-Like Discriminative and Neurochemical Effects That Are Enhanced by Inhibition of Fatty Acid Amide Hydrolase but Not by Inhibition of Anandamide Transport (full - 2007)

<http://jpet.aspetjournals.org/content/321/1/370.full>

Parkinsons' Helped By Marijuana-Like Chemicals In Brain (news - 2007)

<http://www.medicalnewstoday.com/releases/62616.php>

Actions of the FAAH inhibitor URB597 in neuropathic and inflammatory chronic pain models (full - 2006)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1751298/?tool=pmcentrez>

Anti-dyskinetic effects of cannabinoids in a rat model of Parkinson's disease: role of CB1 and TRPV1 receptors (full - 2007)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2128772/?tool=pmcentrez>

The CB1 Cannabinoid Receptor Mediates Excitotoxicity-induced Neural Progenitor

Proliferation and Neurogenesis (full - 2007) <http://www.jbc.org/content/282/33/23892.full>

The fatty acid amide hydrolase inhibitor URB597 (cyclohexylcarbamic acid 3'-carbamoylbiphenyl-3-yl ester) reduces neuropathic pain after oral administration in mice. (full - 2007) <http://jpet.aspetjournals.org/content/322/1/236.long>

Antidepressant-like activity of the fatty acid amide hydrolase inhibitor URB597 in a rat model of chronic mild stress. (abst – 2007) <http://www.ncbi.nlm.nih.gov/pubmed/17511970>

Marijuana Against Parkinson? (news – 2007)  
<http://news.softpedia.com/news/Marijuana-Against-Parkinson-46701.shtml>

Marijuana-Like Brain Chemicals Work As Antidepressant (news - 2007)  
<http://www.sciencedaily.com/releases/2007/11/071105120556.htm>

Enhancing Activity Of Marijuana-Like Chemicals In Brain Helps Treat Parkinson's Symptoms In Mice (news - 2007)  
<http://www.sciencedaily.com/releases/2007/02/070207171915.htm>

Acute hypertension reveals depressor and vasodilator effects of cannabinoids in conscious rats (full - 2008)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2697765/?tool=pmcentrez>

The FAAH inhibitor URB-597 ameliorates cannabinoid withdrawal in mice (abst - 2008)  
[http://www.fasebj.org/cgi/content/meeting\\_abstract/22/1\\_MeetingAbstracts/711.6?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=720&resourcetype=HWCIT](http://www.fasebj.org/cgi/content/meeting_abstract/22/1_MeetingAbstracts/711.6?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=720&resourcetype=HWCIT)

Inhibition of anandamide hydrolysis by URB597 reverses abuse-related behavior and neurochemical effects of nicotine in rats (abst – 2008)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2663803/?tool=pubmed>

Targeting endocannabinoid degradation protects against experimental colitis in mice: involvement of CB1 and CB2 receptors. (abst – 2008)  
<http://www.ncbi.nlm.nih.gov/pubmed/18493729>

Blockade of endocannabinoid-degrading enzymes attenuates neuropathic pain. (full - 2009)  
<http://jpet.aspetjournals.org/content/330/3/902.full?sid=af53ea87-ab4b-426e-9c7e-8f750e9c4a17>

Long-term consequences of URB597 administration during adolescence on cannabinoid CB1 receptor binding in brain areas. (abst – 2009)  
<http://www.sciencedirect.com/science/article/pii/S0006899308030588>

Behavioral sequelae following acute diisopropylfluorophosphate intoxication in rats: comparative effects of atropine and cannabinomimetics. (full – 2010)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2854260/?tool=pubmed>

Preservation of Striatal Cannabinoid CB1 Receptor Function Correlates with the Antianxiety Effects of Fatty Acid Amide Hydrolase Inhibition (full – 2010)  
<http://molpharm.aspetjournals.org/content/78/2/260.long>

Anandamide suppresses pain initiation through a peripheral endocannabinoid mechanism (full – 2010) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3260554/?tool=pubmed>

Regulation of nausea and vomiting by cannabinoids (abst - 2010)  
<http://onlinelibrary.wiley.com/doi/10.1111/j.1476-5381.2010.01176.x/abstract;jsessionid=56CED9CE51B025C161AA2E821BEC94ED.d01t01>

Local application of the endocannabinoid hydrolysis inhibitor URB597 reduces nociception in spontaneous and chemically induced models of osteoarthritis. (abst – 2010)  
[http://www.unboundmedicine.com/medline/ebm/record/21185649/abstract/Local\\_application\\_of\\_the\\_endocannabinoid\\_hydrolysis\\_inhibitor\\_URB597\\_reduces\\_nociception\\_in\\_spontaneous\\_and\\_chemically\\_induced\\_models\\_of\\_osteoarthritis](http://www.unboundmedicine.com/medline/ebm/record/21185649/abstract/Local_application_of_the_endocannabinoid_hydrolysis_inhibitor_URB597_reduces_nociception_in_spontaneous_and_chemically_induced_models_of_osteoarthritis)

Behavioural and molecular consequences of chronic cannabinoid treatment in Huntington's disease transgenic mice. (abst – 2010)  
[http://www.unboundmedicine.com/medline/ebm/record/20600638/abstract/Behavioural\\_and\\_molecular\\_consequences\\_of\\_chronic\\_cannabinoid\\_treatment\\_in\\_Huntington%27s\\_disease\\_transgenic\\_mice](http://www.unboundmedicine.com/medline/ebm/record/20600638/abstract/Behavioural_and_molecular_consequences_of_chronic_cannabinoid_treatment_in_Huntington%27s_disease_transgenic_mice)

Potential First-in-Class Compound, Reveals New Approach to the Treatment of Pain (D3) (news – 2010)  
[http://www.drugs.com/clinical\\_trials/potential-first-class-compound-reveals-new-approach-pain-d3-10133.html](http://www.drugs.com/clinical_trials/potential-first-class-compound-reveals-new-approach-pain-d3-10133.html)

A new drug that kills pain like marijuana, without getting you stoned (news – 2010)  
<http://io9.com/5643337/a-new-drug-that-kills-pain-like-marijuana-without-getting-you-stoned>

Pain target enzyme's working made crystal clear (news – 2010)  
<http://www.rsc.org/chemistryworld/News/2010/May/26051001.asp>

Endocannabinoid regulation of acute and protracted nicotine withdrawal: effect of FAAH inhibition. (full – 2011)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3227620/?tool=pubmed>

Increasing Antiproliferative Properties of Endocannabinoids in N1E-115 Neuroblastoma Cells through Inhibition of Their Metabolism. (full – 2011)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3203169/?tool=pubmed>

Administration of URB597, oleoylethanolamide or palmitoylethanolamide increases waking and dopamine in rats. (full – 2011)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3136458/?tool=pubmed>

L-Type Calcium Channel Mediates Anticonvulsant Effect of Cannabinoids in Acute and Chronic Murine Models of Seizure. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21928146>

Pharmacological elevation of anandamide impairs short-term memory by altering the neurophysiology in the hippocampus. (abst – 2011)

<http://www.ncbi.nlm.nih.gov/pubmed/21767554>

Fatty acid amide hydrolase blockade attenuates the development of collagen-induced arthritis and related thermal hyperalgesia in mice. (abst - 2011)

<http://www.ncbi.nlm.nih.gov/pubmed/21740924>

Role of endocannabinoid and glutamatergic systems in DOI-induced head-twitch response in mice. (abst – 2011)

<http://www.ncbi.nlm.nih.gov/pubmed/21504759>

Regulation of nausea and vomiting by cannabinoids (abst – 2011)

[http://www.unboundmedicine.com/medline/ebm/record/21175589/abstract/Regulation\\_of\\_nausea\\_and\\_vomiting\\_by\\_cannabinoids](http://www.unboundmedicine.com/medline/ebm/record/21175589/abstract/Regulation_of_nausea_and_vomiting_by_cannabinoids)

The endocannabinoid, anandamide, augments Notch-1 signaling in cultured cortical neurons exposed to amyloid-beta and in the cortex of aged rats. (full – 2012)

<http://www.jbc.org/content/early/2012/08/13/jbc.M112.350678.long>

The fatty acid amide hydrolase inhibitor URB597 exerts anti-inflammatory effects in hippocampus of aged rats and restores an age-related deficit in long-term potentiation (full – 2012)

<http://www.jneuroinflammation.com/content/9/1/79>

The association of N-palmitoylethanolamine with the FAAH inhibitor URB597 impairs melanoma growth through a supra-additive action (full – 2012)

<http://www.biomedcentral.com/1471-2407/12/92>

The fatty acid amide hydrolase inhibitor URB597 exerts anti-inflammatory effects in hippocampus of aged rats and restores an age-related deficit in long-term potentiation (full – 2012)

<http://www.jneuroinflammation.com/content/9/1/79>

The association of N-palmitoylethanolamine with the FAAH inhibitor URB597 impairs melanoma growth through a supra-additive action (full – 2012)

<http://www.biomedcentral.com/1471-2407/12/92>

Cannabinoid type-1 receptor reduces pain and neurotoxicity produced by chemotherapy.

(full – 2012) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3366638/>

Modulation of neuropathic-pain-related behaviour by the spinal endocannabinoid/endovanilloid system (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/23108547>

Vascular metabolism of anandamide to arachidonic acid affects myogenic constriction in response to intraluminal pressure elevation. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22285599>

Lack of effect of chronic pre-treatment with the FAAH inhibitor URB597 on inflammatory pain behaviour: evidence for plastic changes in the endocannabinoid system. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22595021>

Inhibition of fatty acid amide hydrolase by URB597 attenuates the anxiolytic-like effect of acetaminophen in the mouse elevated plus-maze test. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22750843>

Medial prefrontal cortex endocannabinoid system modulates baroreflex activity through CB1 receptors (abst – 2012) <http://ajpregu.physiology.org/content/302/7/R876.abstract?sid=952e2125-0502-477c-b603-30f0f3e51b55>

Pharmacological inhibition of endocannabinoid degradation modulates the expression of inflammatory mediators in the hypothalamus following an immunological stressor. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/21952131>

The FAAH inhibitor URB597 efficiently reduces tyrosine hydroxylase expression through CB(1) and FAAH-independent mechanisms. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22970888>

Alterations in endocannabinoid tone following chemotherapy-induced peripheral neuropathy: effects of endocannabinoid deactivation inhibitors targeting fatty-acid amide hydrolase and monoacylglycerol lipase in comparison to reference analgesics following cisplatin treatment. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/23127915>

The FAAH inhibitor URB597 efficiently reduces tyrosine hydroxylase expression through CB1 and FAAH-independent mechanisms (abst – 2012) <http://onlinelibrary.wiley.com/doi/10.1111/j.1476-5381.2012.02208.x/abstract>

Pharmacological modulation of the endocannabinoid signalling alters binge-type eating behaviour in female rats (abst – 2012) <http://onlinelibrary.wiley.com/doi/10.1111/bph.12014/abstract>

The endocannabinoid, anandamide, augments Notch-1 signaling in cultured cortical neurons exposed to amyloid- $\beta$  and in the cortex of aged rats. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22891244>

Potential Pain Medication Targets Peripheral Nerves (news – 2012) <http://www.drugabuse.gov/news-events/nida-notes/potential-pain-medication-targets-peripheral-nerves>

Modulating the endocannabinoid system in human health and disease: successes and failures (full – 2013) <http://onlinelibrary.wiley.com/doi/10.1111/febs.12260/pdf>

Inhibition of FAAH and activation of PPAR: New approaches to the treatment of cognitive dysfunction and drug addiction. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23333350>

Modulation by 17 $\beta$ -estradiol of anandamide vasorelaxation in normotensive and hypertensive rats: a role for TRPV1 but not fatty acid amide hydrolase. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23340220>

Inhibition Of Fatty Acid Amide Hydrolase Activates Nrf2 Signaling And Induces Heme Oxygenase 1 Transcription In Breast Cancer Cells. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23347118>

Inhibition of endocannabinoid degradation in experimental endotoxemia reduces leukocyte adhesion and improves capillary perfusion in the gut. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23382309>

The complex effects of cannabinoids on insulin secretion from rat isolated islets of Langerhans. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23499687>

Phencyclidine-induced social withdrawal results from deficient stimulation of cannabinoid CB1 receptors: implications for schizophrenia. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23563893>

Full Inhibition of Spinal FAAH Leads to TRPV1-Mediated Analgesic Effects in Neuropathic Rats and Possible Lipoxygenase-Mediated Remodeling of Anandamide Metabolism. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23573230>

Control of experimental spasticity by targeting the degradation of endocannabinoids using selective fatty acid amide hydrolase inhibitors. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23625705>

The fatty acid amide hydrolase inhibitor, URB597, promotes retinal ganglion cell neuroprotection in a rat model of optic nerve axotomy. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23643752>

Emotional, endocrine and brain anandamide response to social challenge in infant male rats. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23660109>

Effects of anandamide and other CB1 ligands on cognitive function (abst – 2013)

[http://www.fasebj.org/cgi/content/meeting\\_abstract/27/1\\_MeetingAbstracts/1097.10?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad](http://www.fasebj.org/cgi/content/meeting_abstract/27/1_MeetingAbstracts/1097.10?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad)

Effects of compounds that interfere with the endocannabinoid system on behaviors predictive of anxiolytic and panicolytic activity in the elevated T-maze (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23711591>

The effects of anandamide signaling enhanced by the FAAH inhibitor URB597 on coping styles in rats. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23743650>

Anandamide modulates the neuroendocrine responses induced by extracellular volume expansion. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23875874>

**URB - 754** -slows cannabinoid destruction

The CB1 Cannabinoid Receptor Mediates Excitotoxicity-induced Neural Progenitor Proliferation and Neurogenesis (full - 2007) <http://www.jbc.org/content/282/33/23892.full>

URB-754: A new class of designer drug and 12 synthetic cannabinoids detected in illegal products. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/23063179>

**URB - 937** - slows cannabinoid destruction

UC Irvine discovery part of growing pharma effort to create new class of drugs (news – 2007) [http://archive.today.uci.edu/news/release\\_detail.asp?key=1631](http://archive.today.uci.edu/news/release_detail.asp?key=1631)

Compound boosts marijuana-like chemical in the body to relieve pain at injury site (news - 2010) [http://www.eurekalert.org/pub\\_releases/2010-09/uoc--cbm092010.php](http://www.eurekalert.org/pub_releases/2010-09/uoc--cbm092010.php)

Research Reaps Reefer Madness (news – 2010) <http://www.newuniversity.org/2010/10/news/research-reaps-reefer-madness/>

Pharmacological characterization of the peripheral FAAH inhibitor URB937 in female rodents: interaction with the Abcg2 transporter in the blood-placenta barrier (full – 2012) <http://onlinelibrary.wiley.com/doi/10.1111/j.1476-5381.2012.02098.x/full>

Alterations in endocannabinoid tone following chemotherapy-induced peripheral neuropathy: effects of endocannabinoid deactivation inhibitors targeting fatty-acid amide hydrolase and monoacylglycerol lipase in comparison to reference analgesics following cisplatin treatment. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/23127915>

**WIN 55,212-2** - CB1 agonist

Cannabinoids inhibit N-type calcium channels in neuroblastoma-glioma cells. (full - 1992) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC525583/>

Cross-tolerance between delta-9-tetrahydrocannabinol and the cannabimimetic agents, CP 55,940, WIN 55,212-2 and anandamide. (full - 1993) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2175863/?tool=pmcentrez&page=1>

(+)-WIN 55,212-2, a novel cannabinoid receptor agonist, exerts antidystonic effects in mutant dystonic hamsters. (abst - 1994) <http://www.ncbi.nlm.nih.gov/pubmed/7698178>

Cannabinoid Receptor Agonists Protect Cultured Rat Hippocampal Neurons from Excitotoxicity (full - 1998) <http://molpharm.aspetjournals.org/content/54/3/459.full>

Loss of Cannabinoid Receptor Binding and Messenger Rna Levels and Cannabinoid Agonist-stimulated [35s]guanylyl-5'-o-(Thio)-triphosphate Binding in the Basal Ganglia of Aged Rats. (abst - 1998) <http://www.ncbi.nlm.nih.gov/pubmed/9578396?dopt=Abstract>

Cannabinoids and Neuroprotection in Global and Focal Cerebral Ischemia and in Neuronal Cultures (full - 1999)  
<http://www.jneurosci.org/cgi/content/full/19/8/2987?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&andorexactfulltext=and&searchid=1&FIRSTINDEX=0&sortspec=relevance&resourcetype=HWCIT>

The role of cannabinoid receptors in intestinal motility, defaecation and diarrhoea in rats (abst - 1999) <http://www.ncbi.nlm.nih.gov/pubmed/10611417>

Involvement of Cannabinoid Receptors in the Intraocular Pressure-Lowering Effects of WIN55212-2 (full - 2000) <http://jpet.aspetjournals.org/content/292/1/136.long>

Cannabinoids might reduce spasticity in multiple sclerosis (full - 2000)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1117698/?tool=pmcentrez>

Effects of cannabinoid receptor agonists on neuronally-evoked contractions of urinary bladder tissues isolated from rat, mouse, pig, dog, monkey and human (full - 2000)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1571997/?tool=pmcentrez>

Central and peripheral cannabinoid modulation of gastrointestinal transit in physiological states or during the diarrhoea induced by croton oil (full - 2000)  
<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1572019&tool=pmcentrez>

Modulation of peristalsis by cannabinoid CB1 ligands in the isolated guinea-pig ileum (full - 2000) <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1571902&tool=pmcentrez>

Anti-tumoral action of cannabinoids: involvement of sustained ceramide accumulation and extracellular signal-regulated kinase activation. (full - 2000)  
<http://depts.washington.edu/stellalb/images/Nature2000.pdf>

Delta(9)-tetrahydrocannabinol and synthetic cannabinoids prevent emesis produced by the cannabinoid CB(1) receptor antagonist/inverse agonist SR 141716A. (full - 2001)  
<http://www.nature.com/npp/journal/v24/n2/full/1395605a.html>

The synthetic cannabinoid WIN55,212-2 attenuates hyperalgesia and allodynia in a rat model of neuropathic pain (full - 2001)  
<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1572814&tool=pmcentrez>

The cannabinoid agonist WIN55,212-2 suppresses opioid-induced emesis in ferrets. (link to PDF - 2001)

[http://journals.lww.com/anesthesiology/Fulltext/2001/05000/The\\_Cannabinoid\\_Agonist\\_WIN55,212\\_2\\_Su ppresses.29.aspx](http://journals.lww.com/anesthesiology/Fulltext/2001/05000/The_Cannabinoid_Agonist_WIN55,212_2_Su ppresses.29.aspx)

The cannabinoid CB1 receptor antagonist SR 141716A reverses the antiemetic and motor depressant actions of WIN 55, 212-2 (abst – 2001)

<http://www.ncbi.nlm.nih.gov/pubmed/11120402>

Increased Severity of Stroke in CB1 Cannabinoid Receptor Knock-Out Mice (full - 2002)

<http://www.jneurosci.org/cgi/content/full/22/22/9771?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&andorexactfulltext=and&searchid=1&FIRSTINDEX=0&sortspec=relevance&resourcetype=HWCIT>

Contrasting effects of WIN 55212-2 on motility of the rat bladder and uterus.

(full – 2002) <http://www.jneurosci.org/content/22/16/7147.long>

CB1 Receptors in the Preoptic Anterior Hypothalamus Regulate WIN 55212-2 [(4,5-Dihydro-2-methyl-4(4-morpholinylmethyl)-1-(1-naphthalenyl-carbonyl)-6H-pyrrolo[3,2,1ij]quinolin-6-one]-Induced Hypothermia (full - 2002)

<http://jpet.aspetjournals.org/content/301/3/963.full>

A Peripheral Mechanism for CB1 Cannabinoid Receptor-Dependent Modulation of Feeding (full - 2002)

[http://www.jneurosci.org/cgi/content/abstract/22/21/9612?ijkey=328b5e83d7be9297b9483d22e0d6319fa0a862e8&keytype=tf\\_ipsecsha](http://www.jneurosci.org/cgi/content/abstract/22/21/9612?ijkey=328b5e83d7be9297b9483d22e0d6319fa0a862e8&keytype=tf_ipsecsha)

Influence of the CB1 receptor antagonist, AM 251, on the regional haemodynamic effects of WIN-55212-2 or HU 210 in conscious rats (full - 2002)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1573379/?tool=pmcentrez>

The potent emetogenic effects of the endocannabinoid, 2-AG (2-arachidonoylglycerol) are blocked by delta(9)-tetrahydrocannabinol and other cannabinoids. (full – 2002)

<http://jpet.aspetjournals.org/content/300/1/34.long>

Effects of pharmacological manipulations of cannabinoid receptors on severity of dystonia in a genetic model of paroxysmal dyskinesia. (abst - 2002)

<http://www.ncbi.nlm.nih.gov/pubmed/12421641>

Inhibition of tumor angiogenesis by cannabinoids (full - 2003)

<http://www.fasebj.org/cgi/reprint/02-0795fjev1?maxtoshow=&hits=10&RESULTFORMAT=&fulltext=cannabis&andorexactfulltext=and&searchid=1&FIRSTINDEX=20&sortspec=relevance&resourcetype=HWCIT>

The Endogenous Cannabinoid System Regulates Seizure Frequency and Duration in a Model of Temporal Lobe Epilepsy (full - 2003)

<http://jpet.aspetjournals.org/content/307/1/129.full?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=160&resourcetype=HWCIT>

Immunoregulation of a viral model of multiple sclerosis using the synthetic cannabinoid R(+)-WIN55,212 (full - 2003)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC152941/?tool=pmcentrez>

Cannabinoid receptor type 1 modulates excitatory and inhibitory neurotransmission in mouse colon (full – 2003)

<http://ajpgi.physiology.org/content/286/1/G110.full?sid=fc6948f0-78cf-405c-981b-afaa05ee417c>

Effect of WIN 55212-2, a Cannabinoid Receptor Agonist, on Aqueous Humor Dynamics in Monkeys (link to PDF - 2003)

[http://archophth.ama-](http://archophth.ama-assn.org/cgi/content/full/121/1/87?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=marihuana&searchid=1&FIRSTINDEX=640&resourcetype=HWCIT)

[assn.org/cgi/content/full/121/1/87?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=marihuana&searchid=1&FIRSTINDEX=640&resourcetype=HWCIT](http://archophth.ama-assn.org/cgi/content/full/121/1/87?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=marihuana&searchid=1&FIRSTINDEX=640&resourcetype=HWCIT)

The cannabinoid agonist WIN 55, 212-2 increases nociception threshold in cholestatic rats: implications for the treatment of the pruritus of cholestasis. (abst – 2003)

<http://www.ncbi.nlm.nih.gov/pubmed/13679241>

Cannabinoids: Defending the Epileptic Brain (full - 2004)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1176332/?tool=pmcentrez>

The effect of WIN 55,212-2, a cannabinoid agonist, on tactile allodynia in diabetic rats. (abst – 2004) <http://www.ncbi.nlm.nih.gov/pubmed/15519750>

Marijuana-like compounds may aid array of debilitating conditions ranging from Parkinson's to pain (news – 2004)

[http://www.eurekalert.org/pub\\_releases/2004-10/sfn-mcm102604.php](http://www.eurekalert.org/pub_releases/2004-10/sfn-mcm102604.php)

Enhancing Cannabinoid Neurotransmission Augments the Extinction of Conditioned Fear (full - 2005) <http://www.nature.com/npp/journal/v30/n3/full/1300655a.html>

Effects of cannabinoids on colonic muscle contractility and tension in guinea pigs. (full – 2005) [https://www.jstage.jst.go.jp/article/jnms/72/1/72\\_1\\_43/pdf](https://www.jstage.jst.go.jp/article/jnms/72/1/72_1_43/pdf)

Effects of cannabinoid treatment on Chagas disease pathogenesis: balancing inhibition of parasite invasion and immunosuppression. (full – 2005)

<http://onlinelibrary.wiley.com/doi/10.1111/j.1462-5822.2005.00577.x/pdf>

The cannabinoid receptor agonist WIN 55212-2 inhibits neurogenic inflammations in airway tissues. (full – 2005) [https://www.jstage.jst.go.jp/article/jphs/98/1/98\\_1\\_77/pdf](https://www.jstage.jst.go.jp/article/jphs/98/1/98_1_77/pdf)

Systemic administration of WIN 55,212-2 increases norepinephrine release in the rat frontal cortex (abst - 2005) <http://www.ncbi.nlm.nih.gov/pubmed/15927549>

Cannabinoid Receptor-Mediated Apoptosis Induced by R(+)-Methanandamide and Win55,212-2 Is Associated with Ceramide Accumulation and p38 Activation in Mantle Cell Lymphoma (full - 2006) <http://molpharm.aspetjournals.org/content/70/5/1612.full>

Increasing cannabinoid levels by pharmacological and genetic manipulation delay disease progression in SOD1 mice (full - 2006) <http://www.fasebj.org/cgi/content/full/20/7/1003>

Activation of G-proteins in brain by endogenous and exogenous cannabinoids. (full - 2006) <http://www.ncbi.nlm.nih.gov/pubmed/16584117>

Effects of a Cannabinoid Agonist on Spinal Nociceptive Neurons in a Rodent Model of Neuropathic Pain (full - 2006) <http://jn.physiology.org/cgi/content/full/96/6/2984>

The Endocannabinoid System Controls Key Epileptogenic Circuits in the Hippocampus (full - 2006) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1769341/?tool=pmcentrez>

Antinociceptive effect of cannabinoid agonist WIN 55,212-2 in rats with a spinal cord injury (full - 2006) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1861843/?tool=pmcentrez>

Activation of the Cannabinoid Type-1 Receptor Mediates the Anticonvulsant Properties of Cannabinoids in the Hippocampal Neuronal Culture Models of Acquired Epilepsy and Status Epilepticus (full - 2006)  
<http://jpet.aspetjournals.org/content/317/3/1072.full?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=320&resourcetype=HWCIT#ref-list-1>

Cannabinoid Receptor Agonist-induced Apoptosis of Human Prostate Cancer Cells LNCaP Proceeds through Sustained Activation of ERK1/2 Leading to G1 Cell Cycle Arrest (full - 2006) <http://www.jbc.org/content/281/51/39480.full>

Modulation of paraoxon toxicity by the cannabinoid receptor agonist WIN 55,212-2. (abst - 2006) <http://www.ncbi.nlm.nih.gov/pubmed/16956707>

Cannabinoid receptors as a target for therapy of ovarian cancer (abst - 2006)  
<http://www.aacrmeetingabstracts.org/cgi/content/abstract/2006/1/1084?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=560&resourcetype=HWCIT>

Arthritis and cannabinoids: HU-210 and Win-55,212-2 prevent IL-1alpha-induced matrix degradation in bovine articular chondrocytes in-vitro. (abst - 2006)  
<http://www.ncbi.nlm.nih.gov/pubmed/16536902>

The effects of cannabinoids on P-glycoprotein transport and expression in multidrug resistant cells. (abst - 2006) <http://www.ncbi.nlm.nih.gov/pubmed/16458258>

Characterization of the neuroprotective effect of the cannabinoid agonist WIN-55212 in an in vitro model of hypoxic-ischemic brain damage in newborn rats. (abst - 2006)  
<http://www.ncbi.nlm.nih.gov/pubmed/16864698>

Role of cannabinoid receptor agonists in mechanisms of suppression of central pain syndrome. (abst - 2006)  
[http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Retrieve&list\\_uids=17369898&dopt=abstractplus](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Retrieve&list_uids=17369898&dopt=abstractplus)

Cannabinoids, in combination with (NSAIDS), produce a synergistic analgesic effect (news - 2006) [http://www.norml.org/index.cfm?Group\\_ID=6819](http://www.norml.org/index.cfm?Group_ID=6819)

Continuous infusion of the cannabinoid WIN 55,212-2 to the site of a peripheral nerve injury reduces mechanical and cold hypersensitivity (full - 2007)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2013951/?tool=pmcentrez>

The phytocannabinoid  $\Delta^9$ -tetrahydrocannabivarin modulates inhibitory neurotransmission in the cerebellum (full - 2007)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2438968/>

Antinociceptive effect of cannabinoid agonist WIN 55,212-2 in rats with a spinal cord injury (full - 2007) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1861843/?tool=pmcentrez>

Activation of cannabinoid CB1 and CB2 receptors suppresses neuropathic nociception evoked by the chemotherapeutic agent vincristine in rats. (full - 2007)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2190028/?tool=pubmed>

Subchronic cannabinoid agonist (WIN 55,212-2) treatment during cocaine abstinence alters subsequent cocaine seeking behavior. (full - 2007)  
<http://www.nature.com/npp/journal/v32/n11/abs/1301365a.html>

Cannabinoids elicit antidepressant-like behavior and activate serotonergic neurons through the medial prefrontal cortex. (full - 2007)  
<http://www.jneurosci.org/cgi/content/full/27/43/11700>

Anti-inflammatory property of the cannabinoid agonist WIN-55212-2 in a rodent model of chronic brain inflammation (full - 2007)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1852513/?tool=pmcentrez>

Antinociceptive Synergy Between the Cannabinoid Receptor Agonist WIN 55,212-2 and Bupivacaine in the Rat Formalin Test (full - 2007)  
<http://www.anesthesia-analgesia.org/content/104/3/719.full?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=320&resourcetype=HWCIT>

Cardiovascular effects of cannabinoids in conscious spontaneously hypertensive rats (full - 2007) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2190006/?tool=pmcentrez>

Cross-sensitization and cross-tolerance between exogenous cannabinoid antinociception and endocannabinoid-mediated stress-induced analgesia (full - 2007)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2771679/?tool=pubmed>

CANNABINOID-INDUCED HYPERPHAGIA: CORRELATION WITH INHIBITION OF PROOPIOMELANOCORTIN NEURONS? (full - 2007)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2720321/?tool=pmcentrez>

Anti-dyskinetic effects of cannabinoids in a rat model of Parkinson's disease: role of CB1 and TRPV1 receptors (full - 2007)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2128772/?tool=pmcentrez>

Cannabinoid self-administration in rats: sex differences and the influence of ovarian function (full - 2007)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2190022/>

Development of pharmacoresistance to benzodiazepines but not cannabinoids in the hippocampal neuronal culture model of status epilepticus (full - 2007)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2094113/?tool=pmcentrez>

Control of spasticity in a multiple sclerosis model is mediated by CB1, not CB2, cannabinoid receptors. (full - 2007)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2189718/?tool=pubmed>

Anti-inflammatory property of the cannabinoid agonist WIN-55212-2 in a rodent model of chronic brain inflammation (full - 2007)

<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1852513&tool=pmcentrez>

The synthetic cannabinoids attenuate allodynia and hyperalgesia in a rat model of trigeminal neuropathic pain. (abst - 2007)

<http://www.ncbi.nlm.nih.gov/pubmed/17572451>

Cannabinoid receptors agonist WIN-55,212-2 inhibits angiogenesis, metastasis and tumor growth of androgen-sensitive prostate cancer cell CWR22R<sup>nu</sup>1 xenograft in athymic nude mice (abst - 2007)

[http://www.aacrmeetingabstracts.org/cgi/content/meeting\\_abstract/2007/1\\_Annual\\_Meeting/2195?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=720&resourcetype=HWCIT](http://www.aacrmeetingabstracts.org/cgi/content/meeting_abstract/2007/1_Annual_Meeting/2195?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=720&resourcetype=HWCIT)

Additive Effects of Timolol and Cannabinoids on Intraocular Pressure in a Rat Glaucoma Model (abst - 2007)

<http://abstracts.iovs.org/cgi/content/abstract/48/5/4807?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=560&resourcetype=HWCIT>

Synthetic form of THC is an effective anti-depressant at low doses (news - 2007)

<http://www.news-medical.net/news/2007/10/24/31666.aspx?page=2>

Cannabis: Potent Anti-Depressant In Low Doses, Worsens Depression At High Doses

(news - 2007) <http://www.sciencedaily.com/releases/2007/10/071023183937.htm>

Chronic cannabinoid administration in vivo compromises extinction of fear memory.

(full - 2008) <http://learnmem.cshlp.org/content/15/12/876.long>

Topical WIN55212-2 Alleviates Intraocular Hypertension in Rats Through a CB1 Receptor-Mediated Mechanism of Action (full - 2008)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2637200/?tool=pmcentrez>

Attenuation of Experimental Autoimmune Hepatitis by Exogenous and Endogenous Cannabinoids: Involvement of Regulatory T Cells (full - 2008)  
<http://molpharm.aspetjournals.org/content/74/1/20.full?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=320&resourcetype=HWCIT#content-block>

Peripheral Cannabinoids Attenuate Carcinoma Induced Nociception in Mice (full - 2008) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2771220/>

Role of activated endocannabinoid system in regulation of cellular cholesterol metabolism in macrophages (full - 2008)  
<http://cardiovascres.oxfordjournals.org/content/81/4/805.full?sid=7d2438c4-a727-410f-870d-4a971695b4fb>

Acute hypertension reveals depressor and vasodilator effects of cannabinoids in conscious rats (full - 2008)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2697765/?tool=pmcentrez>

The influence of mast cell mediators on migration of SW756 cervical carcinoma cells. (full - 2008) [https://www.jstage.jst.go.jp/article/jphs/106/2/106\\_FP0070736/\\_pdf](https://www.jstage.jst.go.jp/article/jphs/106/2/106_FP0070736/_pdf)

Cannabinoid 2 receptor induction by IL-12 and its potential as a therapeutic target for the treatment of anaplastic thyroid carcinoma. (full - 2008)  
<http://www.nature.com/cgt/journal/v15/n2/full/7701101a.html>

Differential effects of repeated low dose treatment with the cannabinoid agonist WIN 55,212-2 in experimental models of bone cancer pain and neuropathic pain. (abst - 2008) <http://www.ncbi.nlm.nih.gov/pubmed/18611408>

Cannabinoid receptor agonists inhibit growth and metastasis of breast cancer (abst - 2008)  
[http://www.aacrmeetingabstracts.org/cgi/content/meeting\\_abstract/2008/1\\_Annual\\_Meeting/4081?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=480&resourcetype=HWCIT](http://www.aacrmeetingabstracts.org/cgi/content/meeting_abstract/2008/1_Annual_Meeting/4081?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=480&resourcetype=HWCIT)

Scientists are High on Idea that Cannabis Reduces Memory Impairment (news - 2008)  
<http://www.physorg.com/news146320102.html>

Could Marijuana Substance Help Prevent Or Delay Memory Impairment In The Aging Brain? (news - 2008) <http://www.sciencedaily.com/releases/2008/11/081119120141.htm>

WIN55,212-2, a Cannabinoid Receptor Agonist, Protects Against Nigrostriatal Cell Loss in the MPTP Mouse Model of Parkinson's Disease (full - 2009)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2755595/?tool=pmcentrez>

Sustained antinociceptive effect of cannabinoid receptor agonist WIN 55,212-2 over time in rat model of neuropathic spinal cord injury pain (full - 2009)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2743245/?tool=pmcentrez>

Cannabinoid-1 (CB1) receptors regulate colonic propulsion by acting at motor neurons within the ascending motor pathways in mouse colon (full - 2009)  
<http://ajpgi.physiology.org/cgi/content/full/296/1/G119?maxtoshow=&hits=80&RESULTFORMAT=&fulltext=cannabinoid&searchid=1&FIRSTINDEX=160&resourcetype=HWCIT>

Cannabinoid Receptor Activation in the Basolateral Amygdala Blocks the Effects of Stress on the Conditioning and Extinction of Inhibitory Avoidance (full - 2009)  
<http://www.jneurosci.org/cgi/content/full/29/36/11078?maxtoshow=&hits=10&RESULTFORMAT=&fulltext=Dr.+Irit+Akirav+&andorexactfulltext=and&searchid=1&FIRSTINDEX=0&resourcetype=HWCIT>

Effects of the cannabinoid CB1 receptor antagonist rimonabant on distinct measures of impulsive behavior in rats. (full – 2009)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1915592/?tool=pubmed>

The CB1/CB2 receptor agonist WIN-55,212-2 reduces viability of human Kaposi's sarcoma cells in vitro (full - 2009)  
<http://science.iowamedicalmarijuana.org/pdfs/cancer/Luca%20et%20al%202009%2019539619.pdf>

Endocannabinoids in the rat basolateral amygdala enhance memory consolidation and enable glucocorticoid modulation of memory (full - 2009)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2660732/?tool=pmcentrez>

Synthetic cannabinoid receptor agonists inhibit tumor growth and metastasis of breast cancer (full - 2009) <http://mct.aacrjournals.org/content/8/11/3117.full>

Cannabinoids inhibit fibrogenesis in diffuse systemic sclerosis fibroblasts (full - 2009)  
<http://rheumatology.oxfordjournals.org/content/48/9/1050.full>

Prolonged exposure to WIN55,212-2 causes downregulation of the CB1 receptor and the development of tolerance to its anticonvulsant effects in the hippocampal neuronal culture model of acquired epilepsy. (full – 2009)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2757117/?tool=pubmed>

Cannabinoid agonist WIN-55,212-2 partially restores neurogenesis in the aged rat brain (full - 2009) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3011092/?tool=pubmed>

Cannabinoids attenuate the effects of aging upon neuroinflammation and neurogenesis. (abst – 2009) <http://www.ncbi.nlm.nih.gov/pubmed/19385063>

International Union of Basic and Clinical Pharmacology. LXXIX. Cannabinoid Receptors and Their Ligands: Beyond CB1 and CB2 (full – 2010)  
<http://pharmrev.aspetjournals.org/content/62/4/588.full.pdf+html>

Cannabinoid-mediated inhibition of recurrent excitatory circuitry in the dentate gyrus in a mouse model of temporal lobe epilepsy. (full – 2010)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2871782/?tool=pubmed>

Cannabinoids excite circadian clock neurons. (full – 2010)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2927117/?tool=pubmed>

A synthetic cannabinoid agonist promotes oligodendroglialogenesis during viral encephalitis in rats (full – 2010)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2981070/?tool=pubmed>

The synthetic cannabinoid WIN 55,212-2 sensitizes hepatocellular carcinoma cells to tumor necrosis factor-related apoptosis-inducing ligand (TRAIL)-induced apoptosis by activating p8/CCAAT/enhancer binding protein homologous protein (CHOP)/death receptor 5 (DR5) axis. (full – 2010) <http://molpharm.aspetjournals.org/content/77/5/854.long>

Antitumorigenic Effects of Cannabinoids beyond Apoptosis (full - 2010)

<http://jpet.aspetjournals.org/content/332/2/336.full?sid=af53ea87-ab4b-426e-9c7e-8f750e9c4a17>

Sex difference in cell proliferation in developing rat amygdala mediated by endocannabinoids has implications for social behavior. (full – 2010)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2996668/?tool=pubmed>

The Neuroprotective Effect of Cannabinoid Receptor Agonist (WIN55,212-2) in Paraoxon Induced Neurotoxicity in PC12 Cells and N-methyl-D-aspartate Receptor Interaction (full – 2010)

[http://celljournal.org/library/upload/article/af\\_4334422Hashemi.pdf](http://celljournal.org/library/upload/article/af_4334422Hashemi.pdf)

The effect of the activation of cannabinoid receptor on the proliferation and apoptosis of hepatoma HepG2 cells (abst – 2010) <http://www.ncbi.nlm.nih.gov/pubmed/20368112>

WIN55212-2 ameliorates atherosclerosis associated with suppression of pro-inflammatory responses in ApoE-knockout mice. (abst – 2010)

<http://www.ncbi.nlm.nih.gov/pubmed/20868672>

The cannabinoid receptor agonist WIN 55,212-2 inhibits antigen-induced plasma extravasation in guinea pig airways. (abst – 2010)

<http://www.ncbi.nlm.nih.gov/pubmed/20150748>

Rimonabant-induced Delta9-tetrahydrocannabinol withdrawal in rhesus monkeys: discriminative stimulus effects and other withdrawal signs. (abst – 2010)

[http://www.unboundmedicine.com/medline/ebm/record/20375197/abstract/Rimonabant\\_induced\\_Delta9\\_tetrahydrocannabinol\\_withdrawal\\_in\\_rhesus\\_monkeys:\\_discriminative\\_stimulus\\_effects\\_and\\_other\\_withdrawal\\_signs](http://www.unboundmedicine.com/medline/ebm/record/20375197/abstract/Rimonabant_induced_Delta9_tetrahydrocannabinol_withdrawal_in_rhesus_monkeys:_discriminative_stimulus_effects_and_other_withdrawal_signs)

The cannabinoid WIN55212-2 promotes neural repair after neonatal hypoxia-ischemia. (abst - 2010) <http://www.ncbi.nlm.nih.gov/pubmed/21115947>

The cannabinoid WIN55, 212-2 abrogates dermal fibrosis in scleroderma bleomycin model. (abst - 2010) <http://www.ncbi.nlm.nih.gov/pubmed/21177293>

Pharmacologically induced hypothermia with cannabinoid receptor agonist WIN55, 212-2 after cardiopulmonary resuscitation (abst – 2010)

[http://journals.lww.com/ccmjournal/Abstract/2010/12000/Pharmacologically\\_induced\\_hypothermia\\_with.2.aspx](http://journals.lww.com/ccmjournal/Abstract/2010/12000/Pharmacologically_induced_hypothermia_with.2.aspx)

The Endocannabinoid System Tonicly Regulates Inhibitory Transmission and Depresses the Effect of Ethanol in Central Amygdala (abst - 2010)

<http://www.nature.com/npp/journal/v35/n9/abs/npp201070a.html>

Cannabinoid self-administration attenuates PCP-induced schizophrenia-like symptoms in adult rats. (abst - 2010) <http://www.ncbi.nlm.nih.gov/pubmed/19854030>

Antiproliferative effects of cannabinoid agonists on deep infiltrating endometriosis.

(abst - 2010) <http://www.ncbi.nlm.nih.gov/pubmed/21057002>

Effect of a synthetic cannabinoid agonist on the proliferation and invasion of gastric cancer cells. (abst - 2010) <http://www.ncbi.nlm.nih.gov/pubmed/20336665>

Cannabinoid Receptor Agonist WIN-55,212-2 Protects Differentiated PC12 Cells From Organophosphorus- Induced Apoptosis (abst - 2010)

<http://ijt.sagepub.com/content/29/2/201.abstract>

Cannabinoid subtype-2 receptors modulate the antihyperalgesic effect of WIN 55,212-2 in rats with neuropathic spinal cord injury pain. (abst - 2010)

<http://www.ncbi.nlm.nih.gov/pubmed/20920894>

WIN55,212-2 induces cytoplasmic vacuolation in apoptosis-resistant MCL cells.

(full - 2011) <http://www.nature.com/cddis/journal/v2/n11/full/cddis2011106a.html>

Cannabinoid Agonists Inhibit Neuropathic Pain Induced by Brachial Plexus Avulsion in Mice by Affecting Glial Cells and MAP Kinases. (full - 2011)

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3172222/?tool=pubmed>

Regulatory effect of cannabinoid receptor agonist on chemokine-induced lymphocyte chemotaxis. (full - 2011) [https://www.jstage.jst.go.jp/article/bpb/34/7/34\\_7\\_1090/pdf](https://www.jstage.jst.go.jp/article/bpb/34/7/34_7_1090/pdf)

Cannabinoids prevent the development of behavioral and endocrine alterations in a rat model of intense stress. (full - 2011)

<http://www.nature.com/npp/journal/v37/n2/full/npp2011204a.html>

Cannabidiol and other cannabinoids reduce microglial activation in vitro and in vivo: relevance to Alzheimers' disease (full - 2011)

<http://molpharm.aspetjournals.org/content/early/2011/02/24/mol.111.071290.long>

A Pilot Study into the Effects of the CB1 Cannabinoid Receptor Agonist WIN55,212-2 or the Antagonist/Inverse Agonist AM251 on Sleep in Rats (full - 2011)

<http://www.hindawi.com/journals/sd/2011/178469/>

Cannabinoid exposure during zebra finch sensorimotor vocal learning persistently alters expression of endocannabinoid signaling elements and acute agonist responsiveness

(full – 2011) <http://www.biomedcentral.com/1471-2202/12/3>

The Cannabinoid WIN 55212-2 Mitigates Apoptosis and Mitochondrial Dysfunction After Hypoxia Ischemia. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21909954>

Protective effects of CB1 receptor agonist WIN 55.212-2 in seizure activity in the model of temporal lobe epilepsy (abst – 2011)  
[http://www.unboundmedicine.com/medline/ebm/record/21469332/abstract/%5BProtective\\_effects\\_of\\_CB1\\_receptor\\_agonist\\_WIN\\_55\\_212\\_2\\_in\\_seizure\\_activity\\_in\\_the\\_model\\_of\\_temporal\\_lobe\\_epilepsy%5D](http://www.unboundmedicine.com/medline/ebm/record/21469332/abstract/%5BProtective_effects_of_CB1_receptor_agonist_WIN_55_212_2_in_seizure_activity_in_the_model_of_temporal_lobe_epilepsy%5D)

Cannabinoid applications in glaucoma. (abst – 2011)  
[http://www.unboundmedicine.com/medline/ebm/record/21414525/abstract/Cannabinoid\\_applications\\_in\\_glaucoma](http://www.unboundmedicine.com/medline/ebm/record/21414525/abstract/Cannabinoid_applications_in_glaucoma)

Effect of ion pairing on in vitro transcorneal permeability of a  $\Delta(9)$ -tetrahydrocannabinol prodrug: Potential in glaucoma therapy. (abst – 2011)  
[http://www.unboundmedicine.com/medline/ebm/record/21989812/abstract/Effect\\_of\\_ion\\_pairing\\_on\\_in\\_vitro\\_transcorneal\\_permeability\\_of\\_a\\_%CE%94\\_9\\_tetrahydrocannabinol\\_prodrug:\\_Potential\\_in\\_glaucoma\\_therapy](http://www.unboundmedicine.com/medline/ebm/record/21989812/abstract/Effect_of_ion_pairing_on_in_vitro_transcorneal_permeability_of_a_%CE%94_9_tetrahydrocannabinol_prodrug:_Potential_in_glaucoma_therapy)

Win 55,212-2 reduces cardiac ischaemia-reperfusion injury in Zucker diabetic fatty rats: role of CB2 receptors and cardiac inos/enos expression. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21309057>

Identification of the synthetic cannabinoid R(+)-WIN55,212-2 as a novel regulator of IFN regulatory factor 3 (IRF3) activation and IFN- $\beta$  expression: relevance to therapeutic effects in models of multiple sclerosis. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21245146>

Antiproliferative mechanism of a cannabinoid agonist by cell cycle arrest in human gastric cancer cells. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21312237>

Synthetic cannabinoid WIN 55,212-2 mesylate enhances the protective action of four classical antiepileptic drugs against maximal electroshock-induced seizures in mice. (abst – 2011)  
[http://www.unboundmedicine.com/medline/ebm/record/21238473/abstract/Synthetic\\_cannabinoid\\_WIN\\_55212\\_2\\_mesylate\\_enhances\\_the\\_protective\\_action\\_of\\_four\\_classical\\_antiepileptic\\_drugs\\_against\\_maximal\\_electroshock\\_induced\\_seizures\\_in\\_mice](http://www.unboundmedicine.com/medline/ebm/record/21238473/abstract/Synthetic_cannabinoid_WIN_55212_2_mesylate_enhances_the_protective_action_of_four_classical_antiepileptic_drugs_against_maximal_electroshock_induced_seizures_in_mice)

The Effect of Hypoxia on G Protein Coupled (CB1) Receptor Gene Expression in Cortical B50 Neurons in Culture (abst – 2011)  
<http://www.maxwellsci.com/jp/abstract.php?jid=BJPT&no=92&abs=05>

The antimitogenic effect of the cannabinoid receptor agonist WIN55212-2 on human melanoma cells is mediated by the membrane lipid raft. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21807457>

Effects of Cannabinoid Agonists on Sheep Sphincter of Oddi in vitro. (abst – 2011)  
<http://www.ncbi.nlm.nih.gov/pubmed/21921665>

Cannabinoids Prevent the Development of Behavioral and Endocrine Alterations in a Rat Model of Intense Stress. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/21918506>

Induction of apoptosis by cannabinoids in prostate and colon cancer cells is phosphatase dependent. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/22110202>

$\Delta(9)$ -THC and WIN55,212-2 affect brain tissue levels of excitatory amino acids in a phenotype-, compound-, dose-, and region-specific manner (abst – 2011) [http://www.unboundmedicine.com/medline/ebm/record/21645556/abstract/%CE%94\\_9\\_THC\\_and\\_WIN55212\\_2\\_affect\\_brain\\_tissue\\_levels\\_of\\_excitatory\\_amino\\_acids\\_in\\_a\\_phenotype\\_compound\\_dose\\_and\\_region\\_specific\\_manner](http://www.unboundmedicine.com/medline/ebm/record/21645556/abstract/%CE%94_9_THC_and_WIN55212_2_affect_brain_tissue_levels_of_excitatory_amino_acids_in_a_phenotype_compound_dose_and_region_specific_manner)

Chronic  $\Delta^9$ -tetrahydrocannabinol treatment in rhesus monkeys: differential tolerance and cross-tolerance among cannabinoids. (abst – 2011) [http://www.unboundmedicine.com/medline/ebm/record/21091643/abstract/Chronic\\_%CE%94%E2%81%B9\\_tetrahydrocannabinol\\_treatment\\_in\\_rhesus\\_monkeys:\\_differential\\_tolerance\\_and\\_cross\\_tolerance\\_among\\_cannabinoids](http://www.unboundmedicine.com/medline/ebm/record/21091643/abstract/Chronic_%CE%94%E2%81%B9_tetrahydrocannabinol_treatment_in_rhesus_monkeys:_differential_tolerance_and_cross_tolerance_among_cannabinoids)

Unbalance of CB1 receptors expressed in GABAergic and glutamatergic neurons in a transgenic mouse model of Huntington's disease. (abst – 2011) <http://www.ncbi.nlm.nih.gov/pubmed/22207189>

Reduced alcohol intake and reward associated with impaired endocannabinoid signaling in mice with a deletion of the glutamate transporter GLAST. (full – 2012) <http://www.sciencedirect.com/science/article/pii/S0028390812000470>

The fatty acid amide hydrolase inhibitor URB597 exerts anti-inflammatory effects in hippocampus of aged rats and restores an age-related deficit in long-term potentiation (full – 2012) <http://www.jneuroinflammation.com/content/9/1/79>

Prolonged oral Cannabinoid Administration prevents Neuroinflammation, lowers beta-amyloid Levels and improves Cognitive Performance in Tg APP 2576 Mice. (full – 2012) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3292807/>

Synergistic interaction of pregabalin with the synthetic cannabinoid WIN 55,212-2 mesylate in the hot-plate test in mice: an isobolographic analysis. (full – 2012) [http://www.if-pan.krakow.pl/pjp/pdf/2012/3\\_723.pdf](http://www.if-pan.krakow.pl/pjp/pdf/2012/3_723.pdf)

Antiproliferative Effects of Cannabinoid Agonists on Deep Infiltrating Endometriosis (full – 2012) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2993285/?tool=pubmed>

Cannabinoids Facilitate the Swallowing Reflex Elicited by the Superior Laryngeal Nerve Stimulation in Rats (full – 2012) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3507745/>

The synthetic cannabinoid R(+)-WIN55,212-2 augments interferon- $\beta$  expression via peroxisome proliferator-activated receptor- $\alpha$  (full – 2012) <http://www.jbc.org/content/early/2012/05/31/jbc.M112.371757.full.pdf+html>

Angiotensin II induces vascular endocannabinoid release, which attenuates its vasoconstrictor effect via CB1 cannabinoid receptors. (full – 2012)

<http://www.jbc.org/content/early/2012/07/11/jbc.M112.346296.full.pdf+html>

Cannabinoid receptor activation correlates with the pro-apoptotic action of the  $\beta$ 2-adrenergic agonist, (R,R')-4-methoxy-1-naphthylfenoterol, in HepG2 hepatocarcinoma cells. (full – 2012) <http://jpet.aspetjournals.org/content/early/2012/07/09/jpet.112.195206.long>

Neuron to Astrocyte Communication via Cannabinoid Receptors Is Necessary for Sustained Epileptiform Activity in Rat Hippocampus (full – 2012)

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0037320>

Critical role of the endocannabinoid system in mediating rapid glucocorticoid effects on memory for emotionally arousing experiences (link to PDF - 2012)

<http://www.doaj.org/doi?func=abstract&id=1152481&q1=cannabinoid&f1=all&b1=and&q2=&f2=all&rcNo=3&uiLanguage=en>

Neural Circuit in the Dorsal Raphe Nucleus Responsible for Cannabinoid-Mediated Increases in 5-HT Efflux in the Nucleus Accumbens of the Rat Brain

(link to PDF – 2012)

<http://www.hindawi.com/isrn/pharmacology/2012/276902/>

Contrasting effects of different cannabinoid receptor ligands on mouse ingestive behavior (abst – 2012)

[http://www.unboundmedicine.com/medline/ebm/record/22772336/abstract/Contrasting\\_effects\\_of\\_different\\_cannabinoid\\_receptor\\_ligands\\_on\\_mouse\\_ingestive\\_behaviour](http://www.unboundmedicine.com/medline/ebm/record/22772336/abstract/Contrasting_effects_of_different_cannabinoid_receptor_ligands_on_mouse_ingestive_behaviour)

Review article: The endocannabinoid system in normal and pathological brain ageing

(abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/23108550>

Inverse relationship of cannabimimetic (R+)WIN 55, 212 on behavior and seizure threshold during the juvenile period. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22019959>

The Cannabinoid WIN 55212-2 Mitigates Apoptosis and Mitochondrial Dysfunction After Hypoxia Ischemia. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/21909954>

Tolerance to cannabinoid-induced behaviors in mice treated chronically with ethanol.

(abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/21701813>

Cannabinoids and muscular pain. Effectiveness of the local administration in rat.

(abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22354705>

Cannabinoids ameliorate disease progression in a model of multiple sclerosis in mice, acting preferentially through CB(1) receptor-mediated anti-inflammatory effects.

(abst - 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22342378>

Cannabinoid 1 (CB1) receptor mediates WIN55, 212-2 induced hypothermia and improved survival in a rat post-cardiac arrest model. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22289684>

Vascular metabolism of anandamide to arachidonic acid affects myogenic constriction in response to intraluminal pressure elevation. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22285599>

Reduced infarct size and accumulation of microglia in rats treated with WIN 55,212-2 after neonatal stroke. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22285309>

The cannabinoid agonist WIN55212-2 decreases l-DOPA-induced PKA activation and dyskinetic behavior in 6-OHDA-treated rats. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22192465>

Cannabinoid agonist WIN 55,212-2 prevents the development of paclitaxel-induced peripheral neuropathy in rats. Possible involvement of spinal glial cells. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22374260>

Epileptiform activity in the CA1 region of the hippocampus becomes refractory to attenuation by cannabinoids in part because of endogenous  $\gamma$ -aminobutyric acid type B receptor activity. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22388975>

Sex differences in cannabinoid receptor-1 (CB1) pharmacology in mice selectively bred for high voluntary wheel-running behavior. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22405775>

WIN55212-2 attenuates amyloid-beta-induced neuroinflammation in rats through activation of cannabinoid receptors and PPAR- $\gamma$  pathway. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22634229>

The synthetic cannabinoid R(+)WIN55,212-2 augments interferon- $\beta$  expression via peroxisome proliferator-activated receptor- $\alpha$  (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22654113>

Analgesic effects of cannabinoids on central pain syndrome (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22359935>

Characterization of cannabinoid-induced relief of neuropathic pain in rat models of type 1 and type 2 diabetes. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/22609797>

Nutritional n-3 polyunsaturated fatty acids deficiency alters cannabinoid receptor signaling pathway in the brain and associated anxiety-like behavior in mice.

(abst – 2012)

<http://www.springerlink.com/content/ur5784gm34782505/>

Effect of ion pairing on in vitro transcorneal permeability of a  $\Delta(9)$ -tetrahydrocannabinol prodrug: potential in glaucoma therapy. (abst – 2012)

<http://www.ncbi.nlm.nih.gov/pubmed/21989812>

Cannabinoids inhibit peptidoglycan-induced phosphorylation of NF- $\kappa$ B and cell growth in U87MG human malignant glioma cells. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22842590>

Chronic cannabinoid exposure reduces phencyclidine-induced schizophrenia-like positive symptoms in adult rats. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22903392>

The molecular connections between the cannabinoid system and endometriosis (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22923487>

Involvement of the Endocannabinoid System in Ethanol-Induced Corticostriatal Synaptic Depression. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22971846>

Diuretic effects of cannabinoids. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/23019138>

The periaqueductal gray contributes to bidirectional enhancement of antinociception between morphine and cannabinoids. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/23063785>

Cannabinoid type 1 receptor ligands WIN 55,212-2 and AM 251 alter anxiety-like behaviors of marmoset monkeys in an open-field test. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/23183218>

Chronic cannabinoid exposure reduces phencyclidine-induced schizophrenia-like positive symptoms in adult (abst – 2012)  
[http://www.safetylit.org/citations/index.php?fuseaction=citations.viewdetails&citationIds\[\]=citjournalarticle\\_374483\\_1](http://www.safetylit.org/citations/index.php?fuseaction=citations.viewdetails&citationIds[]=citjournalarticle_374483_1)

Endocannabinoid modulation of jejunal afferent responses to LPS (abst – 2012)  
<http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2982.2012.01961.x/abstract>

Palmitoylethanolamide is a new possible pharmacological treatment for the inflammation associated with trauma. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22697514?dopt=Abstract>

WIN55,212-2 protects oligodendrocyte precursor cells in stroke penumbra following permanent focal cerebral ischemia in rats. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/23202804>

Identification and quantification of a new family of peptide endocannabinoids (Pepcans) showing negative allosteric modulation at CB1 receptors. (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22952224>

Inverse relationship of cannabimimetic (R+)WIN 55, 212 on behavior and seizure threshold during the juvenile period (abst – 2012)  
<http://www.ncbi.nlm.nih.gov/pubmed/22019959>

A CB<sub>1</sub>/CB<sub>2</sub> receptor agonist, WIN 55,212-2, exerts its therapeutic effect in a viral autoimmune model of multiple sclerosis by restoring self-tolerance to myelin. (abst – 2012) <http://www.ncbi.nlm.nih.gov/pubmed/22561283>

Novel Insights Into CB1 Cannabinoid Receptor Signaling: A Key Interaction Identified Between EC3-Loop and TMH2. (full – 2013)

<http://jpet.aspetjournals.org/content/early/2013/02/21/jpet.112.201046.long>

A biophysical model of endocannabinoid-mediated short term depression in hippocampal inhibition. (full – 2013)

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0058926>

Interactions between mu opioid receptor agonists and cannabinoid receptor agonists in rhesus monkeys: antinociception, drug discrimination, and drug self-administration.

(full – 2013) <http://jpet.aspetjournals.org/content/early/2013/03/27/jpet.113.204099.long>

WIN55, 212-2 promotes differentiation of oligodendrocyte precursor cells and improve remyelination through regulation of the phosphorylation level of the ERK 1/2 via cannabinoid receptor 1 after stroke-induced demyelination. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23148948>

Effects of glucagon-like peptide-1 receptor stimulation and blockade on food consumption and body weight in rats treated with a cannabinoid CB1 receptor agonist

WIN 55,212-2. (abst - 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23291632>

Chronic cannabinoid exposure reduces phencyclidine-induced schizophrenia-like positive symptoms in adult rats (abst – 2013)

<http://link.springer.com/article/10.1007/s00213-012-2839-1>

Rapid Glucocorticoid-Induced Activation of TRP and CB1 Receptors Causes Biphasic Modulation of Glutamate Release in Gastric-Related Hypothalamic Preautonomic Neurons.

(abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23386808>

Novelty-Induced Emotional Arousal Modulates Cannabinoid Effects on Recognition Memory and Adrenocortical Activity (abst – 2013)

<http://www.nature.com/npp/journal/vaop/naam/pdf/npp201326a.pdf>

Cannabinoids and traumatic stress modulation of contextual fear extinction and GR expression in the amygdala-hippocampal-prefrontal circuit. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23433741>

Cannabinoids ameliorate impairments induced by chronic stress to synaptic plasticity and short-term memory. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23426383>

Characterisation of cannabinoid-induced relief of neuropathic pain in a rat model of cisplatin-induced neuropathy. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23454533>

Neuroprotective effects of topical CB1 agonist WIN 55212-2 on Retinal ganglion cells after acute rise in intraocular pressure induced ischemia in rat. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23454099>

Effect of Cannabinoid Receptor Activation on Spreading Depression. (abst – 2013)

<http://www.ncbi.nlm.nih.gov/pubmed/23493641>

Antinociceptive effects of the selective CB2 agonist MT178 in inflammatory and chronic rodent pain models. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23518609>

Role of intra-accumbal cannabinoid CB1 receptors in the potentiation, acquisition and expression of morphine-induced conditioned place preference. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23523958>

Functional activity of the cannabinoid 1 receptor is not affected by opioid antagonists in the rat brain. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23560193>

A role for O-1602 and G protein-coupled receptor GPR55 in the control of colonic motility in mice. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23603203>

The non-selective cannabinoid receptor agonist WIN 55,212-2 attenuates responses of C-fiber nociceptors in a murine model of cancer pain. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23673278>

Cannabinoid receptor activation in the nucleus tractus solitaries produces baroreflex-like responses in the rat. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23675095>

Cannabinoid 1 receptor as therapeutic target in preventing chronic epilepsy  
(abst – 2013)  
[http://www.fasebj.org/cgi/content/meeting\\_abstract/27/1\\_MeetingAbstracts/660.2?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad](http://www.fasebj.org/cgi/content/meeting_abstract/27/1_MeetingAbstracts/660.2?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad)

Effect of Cannabinoids and MethoxyPolyethylene Glycols on Aqueous Humor Outflow and Vascular Tone (abst – 2013)  
[http://www.fasebj.org/cgi/content/meeting\\_abstract/27/1\\_MeetingAbstracts/1b541?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad](http://www.fasebj.org/cgi/content/meeting_abstract/27/1_MeetingAbstracts/1b541?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad)

Effects of anandamide and other CB1 ligands on cognitive function (abst – 2013)  
[http://www.fasebj.org/cgi/content/meeting\\_abstract/27/1\\_MeetingAbstracts/1097.10?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad](http://www.fasebj.org/cgi/content/meeting_abstract/27/1_MeetingAbstracts/1097.10?sid=eea722c0-971c-4daa-8b8c-38c0c63c19ad)

Effects of compounds that interfere with the endocannabinoid system on behaviors predictive of anxiolytic and panicolytic activity in the elevated T-maze (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23711591>

Dysregulation of Cannabinoid CB1 Receptor and Associated Signaling Networks in Brains of Cocaine Addicts and Cocaine-Treated Rodents. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23727505>

Cannabinoid Receptor Agonist as an Alternative Drug in 5-Fluorouracil-resistant Gastric Cancer Cells. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23749906>

Cannabidiol attenuates catalepsy induced by distinct pharmacological mechanisms via 5-HT1A receptors activation in mice. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23791616>

Regulation of cell proliferation by GPR55/cannabinoid receptors using (R,R')-4'-methoxy-1-naphthylfenoterol in rat C6 glioma cell line (abst – 2013)  
<http://www.abstractsonline.com/Plan/ViewAbstract.aspx?sKey=695437a2-7613-4bef-8697-2294df2da859&cKey=18ba6eb0-2c5f-4004-a56f-2d1f450e2ed1&mKey=9b2d28e7-24a0-466f-a3c9-07c21f6e9bc9>

CB1 agonists, locally applied to the cortico-thalamic circuit of rats with genetic absence epilepsy, reduce epileptic manifestations. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23860329>

Activation of spinal cannabinoid cb2 receptors inhibits neuropathic pain in streptozotocin-induced diabetic mice. (abst – 2013)  
<http://www.ncbi.nlm.nih.gov/pubmed/23892011>

Exogenous Delta9-Tetrahydrocannabinol Influences Circulating Endogenous Cannabinoids in Humans. (abst – 2013) <http://www.ncbi.nlm.nih.gov/pubmed/23899642>

Marijuana's Memory Paradox (news – 2013)  
<http://healthyliving.msn.com/diseases/alzheimers-disease/marijuanas-memory-paradox-1?gt1=31036>