Goat Anti-Cannabinoid Receptor 1 Antibody
Peptide-affinity purified goat antibody
Catalog # AF1185a

 Specification

Goat Anti-Cannabinoid Receptor 1 Antibody - Product Information
Application: WB
Primary Accession: P21554
Other Accession: NP_149421, 1268, 12801 (mouse), 25248 (rat)
Reactivity: Human, Mouse
Predicted Reactivity: Rat, Dog
Host: Goat
Clonality: Polyclonal
Concentration: 0.5 mg/ml
Isotype: IgG
Calculated MW: 52858

Goat Anti-Cannabinoid Receptor 1 Antibody - Additional Information
Gene ID: 1268
Other Names: Cannabinoid receptor 1, CB-R, CB1, CANN6, CNR1, CNR
Format: 0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin
Storage: Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions: Goat Anti-Cannabinoid Receptor 1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-Cannabinoid Receptor 1 Antibody - Background
This gene encodes one of two cannabinoid receptors. The cannabinoid receptors, principally delta-9-tetrahydrocannabinol and synthetic analogs, are psychoactive ingredients of marijuana. The cannabinoid receptors are members of the guanine-nucleotide-binding protein (G-protein) coupled receptor family, which inhibit adenylate cyclase activity in a dose-dependent, stereoselective and pertussis toxin-sensitive manner. The two receptors have been found to be involved in the cannabinoid-induced CNS effects (including alterations in mood and cognition) experienced by users of marijuana. Multiple transcript variants encoding two different protein isoforms have been described for this gene.

Goat Anti-Cannabinoid Receptor 1 Antibody - References
Variation at the NFATC2 Locus Increases the Risk of Thiazolidinedione-Induced Edema in the Diabetes Reduction Assessment with ramipril and rosiglitazone Medication (DREAM) Study. Bailey SD, et al. Diabetes Care, 2010 Jul 13. PMID

AF1185a (0.1 µg/ml) staining of Rat Brain lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.
anandamide or AEA) and 2-arachidonoylglycerol (2-AG), as well as phytocannabinoids, such as delta(9)-tetrahydrocannabinol (THC) (PubMed:15620723, PubMed:15620723, PubMed:27768894). Mediates many cannabinoid-induced effects, acting, among others, on food intake, memory loss, gastrointestinal motility, catalepsy, ambulatory activity, anxiety, chronic pain. Signaling typically involves reduction in cyclic AMP (PubMed:1718258, PubMed:1718258, PubMed:21895628, PubMed:27768894). In the hypothalamus, may have a dual effect on mitochondrial respiration depending upon the agonist dose and possibly upon the cell type. Increases respiration at low doses, while decreases respiration at high doses. At high doses, CNR1 signal transduction involves G-protein alpha-i protein activation and subsequent inhibition of mitochondrial soluble adenylate cyclase, decrease in cyclic AMP concentration, inhibition of protein kinase A (PKA)-dependent phosphorylation of specific subunits of the mitochondrial electron transport system, including NDUFS2. In the hypothalamus, inhibits leptin-induced reactive oxygen species (ROS) formation and mediates cannabinoid-induced increase in SREBF1 and FASN gene expression. In response to cannabinoids, drives the release of orexigenic beta-endorphin, but not that of melanocyte-stimulating hormone alpha/alpha-MSH, from hypothalamic POMC neurons, hence promoting food intake. In the hippocampus, regulates cellular respiration and energy production in response to cannabinoids. Involved in cannabinoid-dependent depolarization-induced suppression of inhibition (DSI), a process in which depolarization of CA1 postsynaptic pyramidal neurons mobilizes eCBs, which retrogradely activate presynaptic CB1 receptors, transiently decreasing GABAergic inhibitory neurotransmission. Also reduces excitatory synaptic transmission (By similarity). In superior cervical ganglions and cerebral vascular smooth muscle cells, inhibits voltage-gated Ca(2+) channels in a constitutive, as well as agonist-dependent manner (PubMed:17895407). In cerebral vascular smooth muscle cells, cannabinoid-induced inhibition of voltage-gated Ca(2+) channels leads to vasodilation and decreased vascular tone (By similarity). Induces leptin production in 20628086. Polymorphisms in the endocannabinoid receptor 1 in relation to fat mass distribution. Frost M, et al. Eur J Endocrinol, 2010 Sep. PMID 20587580. Cannabinoid Receptor 1 Gene Polymorphism and Irritable Bowel Syndrome in the Korean Population: A Hypothesis-generating Study. Park JM, et al. J Clin Gastroenterol, 2010 May 25. PMID 20505532. Association study of 182 candidate genes in anorexia nervosa. Pinheiro AP, et al. Am J Med Genet B Neuropsychiatr Genet, 2010 Jul. PMID 20468064.
adipocytes and reduces LRP2-mediated leptin clearance in the kidney, hence participating in hyperleptinemia. In adipose tissue, CNR1 signaling leads to increased expression of SREBF1, ACACA and FASN genes (By similarity). In the liver, activation by endocannabinoids leads to increased de novo lipogenesis and reduced fatty acid catabolism, associated with increased expression of SREBF1/SREBP-1, GCK, ACACA, ACACB and FASN genes. May also affect de novo cholesterol synthesis and HDL-cholesteryl ether uptake. Peripherally modulates energy metabolism (By similarity). In high carbohydrate diet-induced obesity, may decrease the expression of mitochondrial dihydrolipoyl dehydrogenase/DLD in striated muscles, as well as that of selected glucose/ pyruvate metabolic enzymes, hence affecting energy expenditure through mitochondrial metabolism (By similarity). In response to cannabinoid anandamide, elicits a proinflammatory response in macrophages, which involves NLRP3 inflammasome activation and IL1B and IL18 secretion (By similarity). In macrophages infiltrating pancreatic islets, this process may participate in the progression of type-2 diabetes and associated loss of pancreatic beta-cells (PubMed:<a href="http://www.uniprot.org/citations/23955712" target="_blank">23955712</a>).

**Cellular Location**

Cell membrane; Multi-pass membrane protein. Membrane raft. Mitochondrion outer membrane

{ECO:0000250|UniProtKB:P47746}. Cell projection, axon {ECO:0000250|UniProtKB:P20272}.

Note=Unexpectedly, in the mitochondria, the C-terminus is located in the mitochondrial intermembrane space, a compartment topologically considered as extracellular. In canonical seven-transmembrane G-protein coupled receptors, the C-terminus is cytosolic (By similarity). Found on presynaptic axon terminals in some GABAergic neurons in the somatosensory cortex (By similarity)

{ECO:0000250|UniProtKB:P20272, ECO:0000250|UniProtKB:P47746}

**Tissue Location**

Widely expressed, with highest levels in fetal and adult brain. Expression levels of isoform 2 and isoform 3 are much lower than those of isoform 1.

**Goat Anti-Cannabinoid Receptor 1 Antibody - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
• Immunofluorescence
• Immunoprecipitation
• Flow Cytometry
• Cell Culture

Goat Anti-Cannabinoid Receptor 1 Antibody - Citations

• Cannabinoid Receptors Are Overexpressed in CLL but of Limited Potential for Therapeutic Exploitation.