

Product Specification Sheet

Cannabinoid Receptor 2 (CB2) Antibodies

Cat. # CB22-P	Rat CB2 Control Peptide # 2	SIZE: 100 ug
Cat. # CB22-S	Rabbit Anti-Rat CB2 antiserum # 2	SIZE: 100 ul
Cat. # CB22-A	Rabbit Anti-Rat CB2 IgG # 2 (affinity pure)	SIZE: 100 ug

Cannabinoids, a group of C₂₁ compounds present in Cannabis sativa L., their carboxylic acids, analogs, and transformation products, are the active ingredients found in hashish and marihuana. (-)-trans-D₉-tetrahydrocannabinol (D₉-THC) is the major psychopharmacologically active component of cannabis. Cannabis affect cognition and memory, euphoria and sedation, and antinociception (analgesia) without the respiratory depression problems associated with opioid analgesics. To date, two sub-types of the G-protein coupled **cannabinoid receptor, CB₁ and CB₂**, have been identified. CB₁ and CB₂ display 7 TM domains with an extracellular N-terminus and cytoplasmic C-terminus.

CB₂ (rat 410 aa, mouse 347aa, human 360 aa; ~45% homology with CB₁) also inhibit adenylate cyclase activity via a pertussis toxin-sensitive G-protein. Unlike CB₁, CB₂ does not modulate the activity of either Q-type Ca²⁺ or inwardly rectifying K⁺ channels. High level of CB₂ expression was found in HL60 cells that had been differentiated into granulocytes or macrophages. It is also expressed in splenic macrophages and monocytes, but not in splenic T cells, mature blood neutrophils, thymus, liver, brain, lung, or kidney indicating that the distribution is quite different from that of the CB₁ receptor. High levels of CB₂ mRNA was found in B-cells and natural killer cells, to a moderate extent in monocytes and only minimally in polymorphonuclear leukocytes, T₄- and T₈-cells. CNS responses to cannabinoid compounds are believed to be mediated largely by the CB₁ receptor.

Source of Antigen and Antibodies

Antigen	An 18 aa peptide (designated CB22-P control peptide) Cytoplasmic Epitope location ~C-terminus of rat CB₂ (1)
Ab Host/type	Rabbit, polyclonal unpurified antiserum (cat # CB22-S Aff pure IgG1 (cat # CB22-S -A) purified over the antigen column
2-ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available
-ve control	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
100ul solution lyophilized powder
Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

Affinity pure IgG

100 ug/100ul solution lyophilized powder
Supplied in **Buffer:** PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide

100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at 20°C and powder at 4°C or -20°C..

Long-term: at -20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20°C or below.

Shipping: 4°C for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure IgG (see refs 2).

ELISA (1:10K-1:100K; using 50-100 ng of control peptide/well).

Histochemistry: Not tested. We recommend the use of 2-10 ug/ml of affinity pure antibody.

Specificity & Cross-reactivity

The rat CB22-P peptide sequence is 83% conserved in mouse, and 82% in human CB₂. No significant sequence homology exists with CB₁. Antibody crossreactivity in various species is not established. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at: the web site).

General References: Munro S et al (1993) Nature 365, 61; Shire D et al (1996) Biochem. Biophys. Acta 1307, 132; Griffin G et al (2000) J. Pharmacol. Exp. Therap. 292, 886

(2) Citations of ADI's Antibodies (see web site for updated list)

Deusch E, 2003, Journal of Neuroimmunology, 141, 99-103 WB

*This product is for In vitro research use only.

Related material available from ADI

Anti-CB₁, CB₂, FAAH, THC, and THC ELISA kit
CB22-S-A-P 7128S

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