

## Cannabinoid Receptor (CB<sub>2</sub>) Polyclonal Antibody

### Product Specifications

<b>Catalog Number:</b>	905-749-100								
<b>Host:</b>	Rabbit								
<b>Species Reactivity:</b>	Rat Other species not tested								
<b>Applications:</b>	<b>WB:</b> Yes <b>IHC:</b> Yes <b>Membrane ELISA*:</b> Yes <b>Cell ELISA*:</b> Yes  Other applications not tested. <i>The optimal dilution for a specific application must be determined by the investigator.</i> <i>*Under certain conditions, this antibody has been shown to display activation-state specificity<sup>5</sup>. The dilution required to achieve activation-state specificity will vary, and should be optimized by the researcher.</i>								
<b>Predicted M.W.:</b>	Predicted ~35 kDa. Higher m.w. species (~50 kDa) and intermediates also observed which reflect post-translational modification of the receptor <sup>6</sup> .								
<b>Concentration:</b>	See product label								
<b>Purification:</b>	Peptide Affinity								
<b>Format:</b>	PBS, 50% glycerol, 0.01% sodium azide								
<b>Storage:</b>	Store at -20°C <i>Shipping conditions may differ from the recommended storage temperature.</i>								
<b>Immunogen:</b>	Synthetic peptide derived from sequence near the amino-terminus of rat Cannabinoid Receptor (CB <sub>2</sub> )								
<b>Related Products:</b>	<table border="0"> <tr> <td>SAB-300</td> <td>Goat anti-Rabbit IgG Polyclonal Antibody, HRP Conjugate</td> </tr> <tr> <td>905-708-100</td> <td>Cannabinoid Receptor 1 (CB<sub>1</sub>) Polyclonal Antibody</td> </tr> <tr> <td>900-066</td> <td>cAMP (direct) EIA Kit</td> </tr> <tr> <td>917-010</td> <td>Nitric Oxide Assay Kit</td> </tr> </table>	SAB-300	Goat anti-Rabbit IgG Polyclonal Antibody, HRP Conjugate	905-708-100	Cannabinoid Receptor 1 (CB <sub>1</sub> ) Polyclonal Antibody	900-066	cAMP (direct) EIA Kit	917-010	Nitric Oxide Assay Kit
SAB-300	Goat anti-Rabbit IgG Polyclonal Antibody, HRP Conjugate								
905-708-100	Cannabinoid Receptor 1 (CB <sub>1</sub> ) Polyclonal Antibody								
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### Background:

The cannabinoid receptors CB<sub>1</sub> and CB<sub>2</sub> are members of the seven-transmembrane domain-containing family of G-protein coupled receptors (GPCRs), and are named for their signaling function in response to cannabinoid drugs such as Δ<sup>9</sup>-tetrahydrocannabinol (Δ<sup>9</sup>-THC)<sup>1</sup>. CB<sub>1</sub> and CB<sub>2</sub> differ significantly in the length of their extracellular amino terminal domain, which is longer in CB<sub>1</sub> (116 residues) than in CB<sub>2</sub> (33 residues). The CB<sub>1</sub> receptor is expressed primarily in the brain and neuronal tissue, and is highly conserved, exhibiting 97-98% amino acid sequence identity across human, mouse, and rat species. In contrast, expression of the CB<sub>2</sub> receptor is absent in normal nervous tissue, with expression most prominent in immune tissue such as the spleen. In addition to Δ<sup>9</sup>-THC and its synthetic analogs, CB<sub>1</sub> and CB<sub>2</sub> receptors are bound by endogenous eicosanoid ligands, and signal via G<sub>i/o</sub> proteins to regulate adenylyl cyclase activity (generally inhibitory), ion channel activation, intracellular Ca<sup>2+</sup> levels, nitric oxide synthase activation, and immediate early gene expression<sup>1,2</sup>. CB<sub>1</sub> and CB<sub>2</sub> signals in turn regulate neurological and immunological functions such as inhibition of neurotransmitter release and immune cell migration, antigen processing, and cytokine production<sup>3,4</sup>.

### References:

1. Howlett, A.C., *et al.* (2002) *Pharmacol Rev.* **54**, 161-202.
2. Howlett, A.C., *et al.* (2000) *Chem Phys Lipids.* **108**, 53-70.
3. Cabral, G.A., *et al.* (2005) *Handb Exp Pharmacol.* **168**, 385-423.
4. Schlicker, E., *et al.* (2001) *Trends Pharmacol Sci.* **22**, 565-572.
5. Gupta, A., *et al.* (2007) *J Biol Chem.* **282**, 5116-5124.
6. Carlisle, S.J., *et al.* (2002) *Int Immunopharmacol.* **2**, 69-82.



Visit the Scientific Resources section of our website for ELISA, IHC, and WB protocols.

Generally reagents are good for one year from the date of receipt, except for conjugates which are good for six months and reagents with an expiration date indicated on the label or other supporting document.

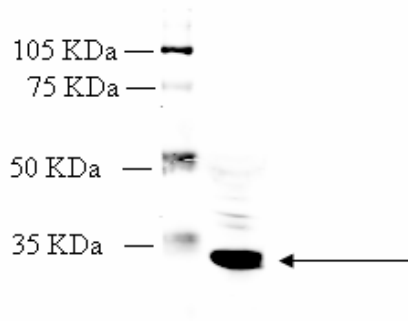
Assay Designs makes every effort to provide a consistent source of high quality polyclonal antibodies. However, due to variations inherent in this technology, investigators are urged to purchase sufficient quantities of a specific lot number if an identical antibody is required throughout a study.

(OVER)

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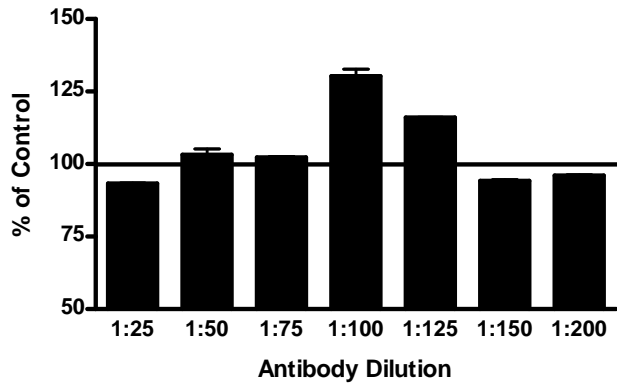
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**Western Blot Analysis:** MW marker (1) and 10  $\mu$ g rat brain extract (2) probed with Cannabinoid Receptor (CB<sub>2</sub>) Polyclonal Antibody at 4  $\mu$ g/mL.

### Spleen Membranes



**Membrane ELISA:** Lewis rat spleen membranes (5  $\mu$ g/well) were treated with 1  $\mu$ M concentrations of agonist ( $\Delta^9$ -THC) and probed with Cannabinoid Receptor (CB<sub>2</sub>) Polyclonal Antibody (1:25 to 1:200 of a 0.1  $\mu$ g/ $\mu$ L stock solution) by ELISA. Data from vehicle treated cells were taken as 100%. Results are the mean  $\pm$  SEM (n=2).