

Product Information



CB₁ Receptor Blocking Peptide

Catalog No. 301500

The CB₁ receptor is a G-protein coupled receptor that binds the active ingredient of cannabis, D9-THC. Cayman's CB₁ receptor polyclonal antibody has been raised against the N-terminal (amino acids 1-14) extracellular region of the of the CB₁ receptor and can be used for Western blotting and immunohistochemistry applications.^{1,2} Human and rat CB₁ receptors exhibit 97.3% homology at the amino acid level over the complete protein, and 100% homology within the peptide sequence used to make this antibody.^{3,4} This peptide exhibits no homology with the CB₂ receptor. Based on the amino acid sequence, the CB₁ receptor has a molecular weight of approximately 52,800.⁴ The CB₁ receptor and the splice variant CB_{1α} are localized mainly in the brain, whereas the CB₂ receptor is localized predominantly in peripheral tissues, including the spleen and hemopoietic cells.³⁻⁶

Laboratory Procedures

This vial contains 200 µg peptide in 200 µl TBS, pH 7.4, containing 0.02% sodium azide derived from the human/rat/murine CB₁ receptor sequence. This peptide was used as an antigen for production of Cayman's CB₁ receptor polyclonal antibody (Cat. No. 101500) and can be used in conjunction with this antibody to block antibody/protein complex formation during immunohistochemical analysis for this protein.

Reconstitute the lyophilized peptide with 200 µl of PBS or distilled water. Store this peptide solution at -20°C. It should be stable for at least two years. To block antibody/protein complex formation, the following procedure is recommended.

1. Mix the CB₁ Receptor Polyclonal Antibody (Catalog No. 101500) and blocking peptide together in a 1:1 (v/v) ratio in a microfuge tube. For example, mix 20 µl of antibody and 20 µl of peptide.*
2. Incubate for 1 hour at room temperature with occasional mixing prior to further dilution and application of the mixture to the immunoblot.
3. Dilute the mixture to the final working antibody concentration and apply to the slide or membrane as usual.

*This is a recommended mixture. The minimum amount of peptide needed for complete blocking has not been precisely determined and may vary depending on the sample being analyzed. The amount of peptide required may need to be increased if sufficient blocking does not occur.

References

1. Howlett, A.C., Song, C., Berglund, B.A., *et al.* Characterization of CB₁ cannabinoid receptors using receptor peptide fragments and site-directed antibodies. *Mol. Pharmacol.* **53**, 504-510 (1998).
2. McIntosh, H.H., Song, C., and Howlett, A.C. CB₁ cannabinoid receptor: Cellular regulation and distribution in N18TG2 neuroblastoma cells. *Mol. Brain Res.* **53**, 163-173 (1998).
3. Gérard, C.M., Mollereau, C., Vassart, G., *et al.* Molecular cloning of a human cannabinoid receptor which is also expressed in testis. *Biochem. J.* **279**, 129-134 (1991).
4. Matsuda, L.A., Lolait, S.J., Brownstein, M.J., *et al.* Structure of a cannabinoid receptor and functional expression of the cloned cDNA. *Nature* **346**, 561-564 (1990).
5. Shire, D., Carillon, C., Kaghad, M., *et al.* An amino-terminal variant of the central cannabinoid receptor resulting from alternative splicing. *J. Biol. Chem.* **270**, 3726-3731 (1995).
6. Munro, S., Thomas, K.L., and Abu-Shaar, M. Molecular characterization of a peripheral receptor for cannabinoids. *Nature* **365**, 61-65 (1993).

Related Product

CB₁ Receptor Polyclonal Antibody - Cat. No. 101500

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent under separate cover to the MSDS supervisor at your institution.

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