

## Product Information

### ANTI-CANNABINOID RECEPTOR 1, RAT

Developed in Rabbit, Affinity Isolated Antibody

Product Number **C 1233**

#### Product Description

Anti-Cannabinoid Receptor 1, Rat (CB1) is developed in rabbit using a highly purified fusion protein containing the first 77 amino acid residues of the rat CB1 receptor as the immunogen. The antibody is affinity isolated on immobilized immunogen.

Anti-Cannabinoid Receptor 1, Rat specifically recognizes the CB1 receptor (60 kDa) from human, rat, monkey, mouse, chicken, salamander and goldfish by immunoblotting and immunocytochemical staining of living or fixed cultured hippocampal neurons.

Cannabinoids exert their well known physiological effects through two G-protein coupled receptors, CB1 and CB2.<sup>1</sup> Both receptors have been shown to inhibit adenylyl cyclase as well as stimulate the mitogen-activated protein kinase, MAPK. CB1 receptors also modulate ion channels through direct G-protein interactions.  $\Delta^9$ -Tetrahydrocannabinol and related ligands exert their psychoactive effects by inhibiting presynaptic N- and Q-type calcium channels.<sup>2</sup>

The CB1 receptor is primarily expressed in brain (particularly cortex, striatum, hippocampus and cerebellum), spinal cord, eye and testis.<sup>3</sup> CB1 receptors are involved in the modulation of nociception (pain), movement, learning and memory, emotion and many other neuronal processes.<sup>4</sup>

The CB2 receptor is 44 % identical to CB1 at the amino acid level. It is thought to function primarily in the peripheral immune system, having been found in the spleen. It may be present in the central nervous system, including the retina.<sup>5</sup>

#### Reagent

Anti-Cannabinoid Receptor 1, Rat is supplied as 100  $\mu$ l of affinity isolated rabbit antibody in phosphate buffered saline containing 1 mg/ml bovine serum albumin, 50 % glycerol and 0.05 % sodium azide.

#### Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling practices.

#### Storage/Stability

Store the antibody at  $-20^{\circ}\text{C}$ . Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

#### Product Profile

The recommended working dilution is 1:250 for immunoblotting and 1:1000 for immunocytochemistry.

When used in immunoblotting, this antibody recognizes a major band of 60 kDa and less intense bands of 23, 72 and 180 kDa.

Immunocytochemical staining of living or fixed cultured hippocampal neurons shows intense, punctate staining along processes with minimal staining over cell bodies.

Note: In order to obtain best results and assay sensitivities of different techniques and preparations, we recommend determining optimal working dilutions by titration test.

#### References

1. Felder, C. C. and Glass, M., *Ann. Rev. Pharmacol. Toxicol.*, **38**, 179-200 (1998).
2. Twitchell, W., et al., *J. Neurophysiol.*, **78**, 43-50 (1997).
3. Tsou, K., et al., *Neuroscience*, **83**, 393-411 (1998).
4. Pertwee, R.G., *Curr. Med. Chem.*, **6**, 635-664 (1999).
5. Lu, Q., et al., *Vis. Neurosci.*, **17**, 91-95 (2000).

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