

Cannabinoid receptor CB1-R

Cat.No. 258 008; Recombinant rabbit antibody, 50 µg recombinant IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg purified recombinant IgG, lyophilized. Albumin and azide were added for stabilization. For reconstitution add 50 µl H ₂ O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C to -80°C until use. Antibodies should be stored at +4°C when still lyophilized. Do not freeze! For detailed information, see back of the data sheet.
Applications	WB: not tested yet IP: not tested yet ICC: 1 : 500 IHC: 1 : 500 IHC-P: 1 : 1000
Clone	Rb289C1
Subtype	IgG1 (κ light chain)
Immunogen	Synthetic peptide corresponding to AA 450 to 473 from rat CB1-R (UniProt Id: P20272)
Reactivity	Reacts with: rat (P20272), mouse (P47746), human (P21554). Other species not tested yet.
Specificity	K.O. validated PubMed: 36933217
Remarks	This antibody is a chimeric antibody based on the monoclonal mouse antibody clone 289C1. The constant regions of the heavy and light chains have been replaced by rabbit specific sequences. Therefore, the antibody can be used with standard anti-rabbit secondary reagents. The antibody has been expressed in mammalian cells.

TO BE USED IN VITRO / FOR RESEARCH ONLY
NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

Background

The **cannabinoid receptor CB1-R** is a G-protein coupled receptor (GPCR) with 7 transmembrane domains. It is responsive to tetrahydrocannabinol, the psychotropic component of marijuana. Endogenous cannabinoids (endocannabinoids) are released from postsynaptic neurons and act onto presynaptic cannabinoid receptors where they play important physiological roles in synaptic plasticity, analgesia, appetite, and neuroprotection.

Selected References for 258 008

Increased hippocampal cannabinoid 1 receptor expression is associated with protection from severe seizures in pregnant mice with reduced uterine perfusion pressure.

Jones-Muhammad M, Pryor T, Shao Q, Freeman KB, Warrington JP
Journal of neuroscience research (2023) : . . **IHC; tested species: mouse**

Somatic and terminal CB1 receptors are differentially coupled to voltage-gated sodium channels in neocortical neurons.

Steiger LJ, Tsintsadze T, Mattheisen GB, Smith SM
Cell reports (2023) 423: 112247. . **ICC; KO verified; tested species: mouse**

Biphasic Npas4 expression promotes inhibitory plasticity and suppression of fear memory consolidation in mice.

Brito DVC, Kupke J, Sokolov R, Cambridge S, Both M, Bengtson CP, Rozov A, Oliveira AMM
Molecular psychiatry (2024) : . . **IHC; tested species: mouse**

Selected General References

Dynamic imaging of cannabinoid receptor 1 vesicular trafficking in cultured astrocytes.

Osborne KD et al. ASN Neuro (2009) PubMed:19906012

CB1 cannabinoid receptor activity is modulated by the cannabinoid receptor interacting protein CRIP 1a.

Niehaus JL et al. Mol. Pharmacol. (2007) PubMed:17895407

The CB1 cannabinoid receptor is the major cannabinoid receptor at excitatory presynaptic sites in the hippocampus and cerebellum.

Kawamura Y et al. J. Neurosci. (2006) PubMed:16540577

An amino-terminal variant of the central cannabinoid receptor resulting from alternative splicing.

Shire D et al. J. Biol. Chem. (1995) PubMed:7876112

Structure of a cannabinoid receptor and functional expression of the cloned cDNA.

Matsuda LA et al. Nature (1990) PubMed:2165569

Cannabinoid inhibition of adenylate cyclase. Biochemistry of the response in neuroblastoma cell membranes.

Howlett AC et al. Mol. Pharmacol. (1985) PubMed:2984538

Access the online factsheet including applicable protocols at <https://sysy.com/product/258008> or scan the QR-code.



FAQ - How should I store my antibody?

Shipping Conditions

- All our antibodies and control proteins / peptides are shipped lyophilized (vacuum freeze-dried) and are stable in this form without loss of quality at ambient temperatures for several weeks.

Storage of Sealed Vials after Delivery

- **Unlabeled** and **biotin-labeled antibodies** and **control proteins** should be stored at 4°C before reconstitution. **They must not be stored in the freezer when still lyophilized!** Temperatures below zero may cause loss of performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long term storage (several months) may lead to aggregation.
- **Control peptides** should be kept at -20°C before reconstitution.

Long Term Storage after Reconstitution (General Considerations)

- The storage freezer must not be of the frost-free variety ("no-frost freezer"). This cycle between freezing and thawing (to reduce frost-build-up), which is exactly what should be avoided. For the same reason, antibody vials should be placed in an area of the freezer that has minimal temperature fluctuations, for instance towards the back rather than on a door shelf.
- Aliquot the antibody and store frozen (-20°C to -80°C). Avoid very small aliquots (below 20 µl) and use the smallest storage vial or tube possible. The smaller the aliquot, the more the stock concentration is affected by evaporation and adsorption of the antibody to the surface of the storage vial or tube. Adsorption of the antibody to the surface leads to a substantial loss of activity.
- The addition of glycerol to a final concentration of 50% lowers the freezing point of your stock and keeps your antibody at -20°C in liquid state. This efficiently avoids freeze and thaw cycles.

Product Specific Hints for Storage

Control proteins / peptides

- Store at -20°C to -80°C.

Monoclonal Antibodies

- **Ascites** and **hybridoma supernatant** should be stored at -20°C up to -80°C. **Prolonged storage at 4°C is not recommended!** Unlike serum, ascites may contain proteases that will degrade the antibodies.
- **Purified IgG** should be stored at -20°C up to -80°C. Adding a carrier protein like BSA will increase long term stability. Many of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Polyclonal Antibodies

- **Crude antisera:** With anti-microbials added, they may be stored at 4°C. However, frozen storage (-20°C up to -80°C) is preferable.
- **Affinity purified antibodies:** Less robust than antisera. Storage at -20°C up to -80°C is recommended. Adding a carrier protein like BSA will increase long term stability. Most of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Fluorescence-labeled Antibodies

- Store as a liquid with 1 : 1 (v/v) glycerol at -20°C. Protect these antibodies from light exposure.

Avoid repeated freeze-thaw cycles for all antibodies!

FAQ - How should I reconstitute my antibody?

Reconstitution

- All our purified antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the amount of deionized water given in the respective datasheet. If higher volumes are preferred, add water as mentioned above and then the desired amount of PBS and a stabilizing carrier protein (e.g. BSA) to a final concentration of 2%. Some of our antibodies already contain albumin. Take this into account when adding more carrier protein. For complete reconstitution, carefully remove the lid. After adding water, briefly vortex the solution. You can spin down the liquid by placing the vial into a 50 ml centrifugation tube filled with paper.
- If desired, add small amounts of azide or thimerosal to prevent microbial growth. This is especially recommended if you want to keep an aliquot a 4°C.
- After reconstitution of fluorescence-labeled antibodies, add 1 : 1 (v/v) glycerol to a final concentration of 50%. This lowers the freezing point of your stock and keeps your antibody in liquid state at -20°C.
- Glycerol may also be added to unlabeled primary antibodies. It is a suitable way to avoid freeze-thaw cycles.
- Please refer to our **tips and hints for subsequent storage** of reconstituted antibodies and control peptides and proteins.