

Cannabinoid receptor CB1-R

Cat.No. 258 003; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. 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: 1 : 1000 (see remarks) IP: not tested yet ICC: 1 : 500 IHC: 1 : 500 IHC_P: 1 : 500
Immunogen	Synthetic peptide corresponding to AA 450 to 473 from rat CB1-R (UniProt Id: P20272)
Reactivity	Reacts with: rat (P20272), mouse (P47746). Other species not tested yet.
Specificity	K.O. PubMed: 32631938
Remarks	WB: Non-boiled samples are recommended.

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 258 003

Involvement of the endocannabinoid system in the physiological response to transient common carotid artery occlusion and reperfusion.

Quartu M, Poddighe L, Melis T, Serra MP, Boi M, Lisai S, Carta G, Murru E, Muredda L, Collu M, Banni S, et al. Lipids in health and disease (2017) 161: 14. . **WB, IHC**

Multomics of synaptic junctions reveals altered lipid metabolism and signaling following environmental enrichment. Borgmeyer M, Coman C, Has C, Schött HF, Li T, Westhoff P, Cheung YFH, Hoffmann N, Yuanxiang P, Behnisch T, Gomes GM, et al. Cell reports (2021) 371: 109797. . **ICC, IHC; tested species: mouse, rat**

Developmentally transient CB1Rs on cerebellar afferents suppress afferent input, downstream synaptic excitation, and signaling to migrating neurons.

Barnes JL, Mohr C, Ritchey CR, Erikson CM, Shiina H, Rossi DJ

The Journal of neuroscience : the official journal of the Society for Neuroscience (2020) : . . **IHC; KO verified; tested species: mouse, rat**

A High-Resolution Method for Quantitative Molecular Analysis of Functionally Characterized Individual Synapses.

Holderith N, Heredi J, Kis V, Nusser Z

Cell reports (2020) 324: 107968. . **IHC; tested species: rat**

Phenotypic characterization of MCP-1 expressing neurons in the rat cerebral cortex.

Mulet M, Blasco-Ibáñez JM, Kirstein M, Crespo C, Nacher J, Varea E

Journal of chemical neuroanatomy (2020) 106: 101785. . **IHC; tested species: rat**

Dark exposure affects plasticity-related molecules and interneurons throughout the visual system during adulthood.

Carceller H, Guirado R, Nacher J

The Journal of comparative neurology (2019) : . . **IHC; tested species: mouse**

An opposing function of paralogs in balancing developmental synapse maturation.

Favaro PD, Huang X, Hosang L, Stodieck S, Cui L, Liu YZ, Engelhardt KA, Schmitz F, Dong Y, Löwel S, Schlüter OM, et al. PLoS biology (2018) 1612: e2006838. . **WB; tested species: mouse**

Active zone proteins RIM1αβ are required for normal corticostriatal transmission and action control.

Kupferschmidt DA, Augustin SM, Johnson KA, Lovinger DM

The Journal of neuroscience : the official journal of the Society for Neuroscience (2018) : . . **IHC; tested species: mouse**

NPAS4 recruits CCK basket cell synapses and enhances cannabinoid-sensitive inhibition in the mouse hippocampus.

Hartzell AL, Martyniuk KM, Brigidi GS, Heinz DA, Djaja NA, Payne A, Bloodgood BL

eLife (2018) 7: . . **IHC; tested species: mouse**

Differential role of GABAA receptors and neuroligin 2 for perisomatic GABAergic synapse formation in the hippocampus.

Panzanelli P, Früh S, Fritschy JM

Brain structure & Function (2017) 2229: 4149-4161. . **IHC; tested species: mouse**

Neuronal Dystroglycan Is Necessary for Formation and Maintenance of Functional CCK-Positive Basket Cell Terminals on Pyramidal Cells.

Früh S, Romanos J, Panzanelli P, Bürgisser D, Tyagarajan SK, Campbell KP, Santello M, Fritschy JM

The Journal of neuroscience : the official journal of the Society for Neuroscience (2016) 3640: 10296-10313. . **IHC; tested species: mouse**

Subventricular zone neural progenitors reverse TNF-alpha effects in cortical neurons.

Morini R, Ghirardini E, Butti E, Verderio C, Martino G, Matteoli M

Stem cell research & therapy (2015) 6: 166. . **ICC**

Access the online factsheet including applicable protocols at <https://sysy.com/product/258003> 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 at 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.