

Cannabinoid receptor CB1-R

Cat.No. 258 011; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized. Albumin and azide were added for stabilization. For reconstitution add 100 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 : 500
Clone	289C1
Subtype	IgG2b (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

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 258 011

- Cannabidiol modulates excitatory-inhibitory ratio to counter hippocampal hyperactivity. Rosenberg EC, Chamberland S, Bazelat M, Nebet ER, Wang X, McKenzie S, Jain S, Greenhill S, Wilson M, Marley N, Salah A, et al. *Neuron* (2023) : . . **ICC, IHC; tested species: mouse, rat**
- Impact of the mouse estrus cycle on cannabinoid receptor agonist-induced molecular and behavioral outcomes. Kim HJJ, Zagzoog A, Black T, Baccetto SL, Ezeaka UC, Laprairie RB *Pharmacology research & perspectives* (2022) 103: e00950. . **WB; tested species: mouse**
- CB1R blockade unmasks TRPV1-mediated contextual fear generalization in female, but not male rats. Huckleberry KA, Calitri R, Li AJ, Mejdell M, Singh A, Bhutani V, Laine MA, Nastase AS, Morena M, Hill MN, Shansky RM, et al. *Neuropsychopharmacology : official publication of the American College of Neuropsychopharmacology* (2023) 4810: 1500-1508. . **IHC; tested species: rat**
- Dual Cannabinoid and Orexin Regulation of Anhedonic Behaviour Caused by Prolonged Restraint Stress. Kim HJJ, Zagzoog A, Ceni C, Ferrisi R, Janz N, Laprairie RB *Brain sciences* (2023) 132: . . **IHC; tested species: mouse**
- Social Play Behavior Is Critical for the Development of Prefrontal Inhibitory Synapses and Cognitive Flexibility in Rats. Bijlsma A, Omrani A, Spoelder M, Verharen JPH, Bauer L, Cornelis C, de Zwart B, van Dorland R, Vanderschuren LJM, Wierenga CJ *The Journal of neuroscience : the official journal of the Society for Neuroscience* (2022) 4246: 8716-8728. . **IHC; tested species: rat**
- Deficiency in endocannabinoid synthase DAGLB contributes to early onset Parkinsonism and murine nigral dopaminergic neuron dysfunction. Liu Z, Yang N, Dong J, Tian W, Chang L, Ma J, Guo J, Tan J, Dong A, He K, Zhou J, et al. *Nature communications* (2022) 131: 3490. . **IHC; tested species: mouse**
- Axonal CB1 Receptors Mediate Inhibitory Bouton Formation via cAMP Increase and PKA. Liang J, Kruijssen DLH, Verschuuren ACJ, Voesenek BJB, Benavides FFW, Sáez Gonzalez M, Ruiter M, Wierenga CJ *The Journal of neuroscience : the official journal of the Society for Neuroscience* (2021) 4140: 8279-8296. . **IHC; tested species: mouse**
- In vivo Evidence for Brain Region-Specific Molecular Interactions Between Cannabinoid and Orexin Receptors. Kim HJJ, Zagzoog A, Smolyakova AM, Ezeaka UC, Benko MJ, Holt T, Laprairie RB *Frontiers in neuroscience* (2021) 15: 790546. . **IHC; tested species: mouse**
- Effects of Δ9-THC on memory in ovariectomized and intact female rats. DeLarge AF, Winsauer PJ *Hormones and behavior* (2021) 127: 104883. . **IHC; tested species: 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**
- Early-life stress exacerbates the effects of WIN55,212-2 and modulates the cannabinoid receptor type 1 expression. Martín-Sánchez A, García-Baos A, Castro-Zavala A, Alegre-Zurano L, Valverde O *Neuropharmacology* (2020) : 108416. . **IHC; tested species: mouse**
- Endocannabinoid Signaling Mediates Local Dendritic Coordination between Excitatory and Inhibitory Synapses. Hu HY, Kruijssen DLH, Frias CP, Rózsza B, Hoogenraad CC, Wierenga CJ *Cell reports* (2019) 273: 666-675.e5. . **IHC; tested species: mouse**

Access the online factsheet including applicable protocols at <https://sysy.com/product/258011> 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.