SYSY Antibodies

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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_2O 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 (FFPE)**: 1 : 1000
Clone	Rb289C1
Subtype	IgG1 (κ light chain)
Immunogen	Synthetic peptide corresponding to residues near the carboxy terminus of 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 The constant regions of the heavy and light chains have been replaced by rabbit specific sequences.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.

For more information on protein expression pattern, please refer to the overview image in our SYSY Antibodies ATLAS.

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 SYSY antibodies and control proteins/peptides are shipped lyophilized (vacuum freeze-dried). In this form, they remain stable 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. **Do not freeze lyophilized antibodies**. Temperatures below 0°C may impair performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long-term storage of lyophilized fluorophore-conjugates may cause aggregation.
- **Control peptides** should be stored at -20°C before reconstitution.

Long Term Storage after Reconstitution (General Considerations)

- **Do not use frost-free ("no-frost") freezers.** These units periodically warm to remove ice buildup, causing freeze–thaw cycles that can damage antibodies.
- Store vials in areas with minimal temperature fluctuation - preferably toward the back of the freezer, not on the door.
- Aliquot reconstituted antibodies and store at –20°C to –80°C.
- Avoid very small aliquots (<20 µL), as evaporation and adsorption to tube surfaces can reduce antibody concentration and activity.
- Use the smallest practical storage vial to minimize surface area.
- Adding glycerol to a final concentration of 50% prevents freezing at -20°C, allowing storage in liquid form and effectively avoiding freeze–thaw cycles.

Product Specific Hints for Storage

Control proteins / peptides

- Store at -20°C to -80°C

Monoclonal Antibodies

- **Ascites and hybridoma supernatant:** Store at -20°C to -80°C
  Prolonged storage at 4°C is not recommended, as proteases present in ascites may degrade antibodies.
- **Purified IgG:** Store at -20°C to -80°C
  Adding a carrier protein (e.g., BSA) enhances long-term stability.
  Many SYSY antibodies already contain carrier proteins - refer to the respective datasheet for details.

Polyclonal Antibodies

- **Crude antisera:** Can be stored at 4°C with antimicrobials added, but -20°C to -80°C is preferred
- **Affinity-purified antibodies:** Less stable than antisera; store at -20°C to -80°C
  Adding a carrier protein such as BSA improves long-term stability.
  Most SYSY antibodies already contain carrier proteins - refer to the respective datasheet for details.

Fluorescence-labeled Antibodies

- Store as a liquid with 1:1 (v/v) glycerol at -20°C, and protect from light exposure

Avoid repeated freeze-thaw cycles for all antibodies!

FAQ - How should I reconstitute my antibody?

Reconstitution

- All purified SYSY antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the volume of deionized water specified in the corresponding datasheet. If a larger final volume is desired, first add the recommended amount of water, then adjust with PBS and, if needed, add a stabilizing carrier protein (e.g., BSA) to a final concentration of 2%. Some SYSY antibodies already contain albumin; please take this into account before adding additional carrier protein.

For complete reconstitution, carefully remove the vial cap. After adding water, briefly vortex the solution. To collect the liquid at the bottom of the vial, place the vial inside a 50 ml centrifuge tube padded with paper and centrifuge briefly.

- If desired, small amounts of azide or thimerosal may be added to prevent microbial growth. This is particularly recommended when storing an aliquot at 4°C.
- After reconstitution of fluorescence-labeled antibodies, add glycerol 1:1 (v/v) to achieve a final concentration of 50%. This prevents freezing at –20°C and keeps the antibody in liquid form, effectively avoiding freeze–thaw cycles.
- Glycerol may also be added to unlabeled primary antibodies as a general measure to prevent freeze–thaw damage.
- For further guidance, please refer to our **storage tips** and recommendations for reconstituted antibodies, control peptides, and control proteins.