

Cre-Recombinase

Cat.No. 257 003; 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: yes IP: not tested yet ICC: 1 : 500 IHC: 1 : 500 IHC-P: not tested yet
Immunogen	Full length recombinant Cre-recombinase from Bacteriophage P1. (UniProt Id: P06956)
Specificity	Recognizes Cre- and iCre-recombinase.

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

Background

Cre-Recombinase is a 38 kDa type 1 topoisomerase from bacteriophage P1. It is highly specific for a 34 bp DNA sequence (loxP) found in P1 DNA and catalyzes site-specific recombination between two 34-base-pair LOXP recognition sites. Its role is to maintain the phage genome as a monomeric unit-copy plasmid in the lysogenic state. Its highly specific catalytic activity makes it a valuable tool for the generation of conditional or tissue specific mutants.

Selected References for 257 003

- CYFIP2 p.Arg87Cys Causes Neurological Defects and Degradation of CYFIP2. Kang M, Zhang Y, Kang HR, Kim S, Ma R, Yi Y, Lee S, Kim Y, Li H, Jin C, Lee D, et al. *Annals of neurology* (2023) 931: 155-163. . **WB; tested species: mouse**
- Satb2Cre/+ mouse as a tool to investigate cell fate determination in the developing neocortex. Ambrozkiwicz MC, Bessa P, Salazar-Lázaro A, Salina V, Tarabykin V *Journal of neuroscience methods* (2017) 291: 113-121. . **IHC; tested species: mouse**
- Human OPRM1 and murine Oprm1 promoter driven viral constructs for genetic access to µ-opioidergic cell types. Salimando GJ, Tremblay S, Kimmey BA, Li J, Rogers SA, Wojcik JA, McCall NM, Wooldridge LM, Rodrigues A, Borner T, Gardiner KL, et al. *Nature communications* (2023) 141: 5632. . **IHC; tested species: mouse**
- Context-dependent requirement of G protein coupling for Latrophilin-2 in target selection of hippocampal axons. Pederick DT, Perry-Hauser NA, Meng H, He Z, Javitch JA, Luo L *eLife* (2023) 12: . . **IHC; tested species: mouse**
- The role of α-tubulin tyrosination in controlling the structure and function of hippocampal neurons. Hosseini S, van Ham M, Erck C, Korte M, Michaelsen-Preusse K *Frontiers in molecular neuroscience* (2022) 15: 931859. . **IHC; tested species: mouse**
- A critical period of translational control during brain development at codon resolution. Harnett D, Ambrozkiwicz MC, Zinnall U, Rusanova A, Borisova E, Drescher AN, Couce-Iglesias M, Villamil G, Dannenberg R, Imami K, Münster-Wandowski A, et al. *Nature structural & molecular biology* (2022) 2912: 1277-1290. . **IHC; tested species: mouse**
- Cerebellin-2 regulates a serotonergic dorsal raphe circuit that controls compulsive behaviors. Seigneur E, Wang J, Dai J, Polepalli J, Südhof TC *Molecular psychiatry* (2021) : . . **IHC; tested species: mouse**
- Npas1+-Nkx2.1+ Neurons Are an Integral Part of the Cortico-pallido-cortical Loop. Abecassis ZA, Berceau BL, Win PH, García D, Xenias HS, Cui Q, Pamukcu A, Cherian S, Hernández VM, Chon U, Lim BK, et al. *The Journal of neuroscience : the official journal of the Society for Neuroscience* (2020) 404: 743-768. . **IHC; tested species: mouse**
- Regulation of BDNF Release by ARMS/Kidins220 through Modulation of Synaptotagmin-IV Levels. López-Benito S, Sánchez-Sánchez J, Brito V, Calvo L, Lisa S, Torres-Valle M, Palko ME, Vicente-García C, Fernández-Fernández S, Bolaños JP, Ginés S, et al. *The Journal of neuroscience : the official journal of the Society for Neuroscience* (2018) 3823: 5415-5428. . **IHC; tested species: mouse**
- Polarity Acquisition in Cortical Neurons Is Driven by Synergistic Action of Sox9-Regulated Wwp1 and Wwp2 E3 Ubiquitin Ligases and Intronic miR-140. Ambrozkiwicz MC, Schwark M, Kishimoto-Suga M, Borisova E, Hori K, Salazar-Lázaro A, Rusanova A, Altas B, Piepkorn L, Bessa P, Schaub T, et al. *Neuron* (2018) : . . **IHC; tested species: mouse**

Selected General References

- Conditional Wwox deletion in mouse mammary gland by means of two Cre recombinase approaches. Ferguson BW, Gao X, Kil H, Lee J, Benavides F, Abba MC, Aldaz CM *PLoS one* (2012) 75: e36618. .

Access the online factsheet including applicable protocols at <https://sysy.com/product/257003> 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.