SYSY Antibodies

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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_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**: external data (see remarks) **IP**: not tested yet **ICC**: 1 : 500 **IHC**: 1 : 500 up to 1 : 1000 **IHC-P (FFPE)**: 1 : 2000 up to 1 : 5000
Immunogen	Full length recombinant Cre-recombinase from Bacteriophage P1. (UniProt Id: P06956)
Specificity	Recognizes Cre- and iCre-recombinase.
Remarks	**WB**: This antibody has been successfully used and published for this application by customers. It has not been validated using our standard protocol (see “application” references).

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

Background

Cre-Recombinase is a site-specific DNA recombinase derived 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, enabling precise deletion, inversion, or activation of DNA sequences. Its role is to maintain the phage genome as a monomeric unit-copy plasmid in the lysogenic state [1].
In experimental biology, Cre is commonly expressed under tissue-, cell-, or temporally specific promoters, allowing conditional manipulation of genes in transgenic and knockout mouse models [2, 3]. Inducible variants such as Cre-ERT are fused to a modified estrogen receptor domain and can be activated by tamoxifen, providing temporal control of recombination [4].

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.
Ambrozkiewicz MC, Bessa P, Salazar-Lázaro A, Salina V, Tarabykin V
Journal of neuroscience methods (2017) 291: 113-121. . **IHC; tested species: mouse**

Complementation of a human disease phenotype by intercellular mRNA transfer.
Haimovich G, Dasgupta S, Govindan Ravi A, Gerst JE
Cell reports (2026) 459: 117959. . **WB; tested species: human**

GluA1-containing AMPA receptors are necessary for sparse memory engram formation.
Willems TS, Xiong H, Kessels HW, Lesuis SL
Neurobiology of learning and memory (2025) 218: 108031. . **IHC; tested species: mouse**

A divergent astrocytic response to stress alters activity patterns via distinct mechanisms in male and female mice.
Depaauw-Holt LR, Duquenne M, Hamane S, Peyrard S, Rogers B, Ireland C, Nasu Y, Fulton S, Bosson A, Alquier T, Murphy-Royal C, et al.
Nature communications (2025) 161: 6372. . **IHC; tested species: mouse**

Cell-type-specific representation of spatial context in the rat prefrontal cortex.
Brünner H, Kim H, Ährlund-Richter S, van Lunteren JA, Crestani AP, Meletis K, Carlén M
iScience (2024) 275: 109743. . **IHC; tested species: rat**

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, Wojick 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, Ambrozkiewicz 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**

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 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.