SYSY Antibodies

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Cre-Recombinase

Cat.No. 257 004; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µl antiserum, lyophilized. For **reconstitution** add 100 µl H_2O, then aliquot and store at -20°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 up to 1 : 1000 **IHC**: 1 : 500 **IHC-P (FFPE)**: 1 : 500
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 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 257 004

Deconstructing the intercellular interactome in vascular dementia with focal ischemia for therapeutic applications.
Tian M, Kawaguchi R, Shen Y, Machnicki M, Villegas NG, Cooper DR, Montgomery N, Cai Y, Haring J, Lan R, Yuan AH, et al.
Cell (2025) : . . **IHC-P; tested species: mouse**

Ultrastructural Imaging of Activity-Dependent Synaptic Membrane-Trafficking Events in Cultured Brain Slices.
Imig C, López-Murcia FJ, Maus L, García-Plaza IH, Mortensen LS, Schwark M, Schwarze V, Angibaud J, Nägerl UV, Taschenberger H, Brose N, et al.
Neuron (2020) : . . **IHC; tested species: mouse**

Prefrontal cortex-to-hypothalamic outputs orchestrate cue-potentiated palatable food consumption via AMPKβ2 signaling.
Xiang J, Shi M, Kang J, Zhang X, Ling J, Zhan W, Li D, Hu RK, Xu ZX
Cell discovery (2026) 121: 2. . **IHC; tested species: mouse**

Piriform seizures mediated by the piriform-entorhino-dentate circuit induce brain-wide functional reorganization in mice.
Tao Y, Zhao Y, Zhong W, Zhang J, Zhu H, Zhu X, Wang Z, Wang N, Yang L, Xu F, Wu R, et al.
PLoS biology (2026) 242: e3003577. . **IHC; tested species: mouse**

SETDB1 modulates neuroinflammation in the mouse cortex by regulating neuronal P2rx7 expression.
Zhu Y, Liao L, Liu X, Sheng H, Sun D, Li J, Chen Q, Zhang C, Wang S, Zhang Y, Weng J, et al.
Molecular psychiatry (2026) : . . **IHC; tested species: mouse**

Astrocytic NFIX regulates thalamocortical circuits through GABA and purinergic signaling.
Murali S, Silva-Pérez M, Woo J, Patel P, Ko Y, Kwon W, Sanchez K, Borges da Silva H, Gronostajski R, Chin J, Deneen B, et al.
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Curtis GR, Carpenter BA, Pirino BE, Hawks A, Li G, Barson JR
Psychopharmacology (2024) : . . **IHC; tested species: mouse**

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Matsumura K, Nicot A, Choi IB, Asokan M, Le NN, Natividad LA, Dobbs LK
Addiction biology (2023) 2810: e13328. . **IHC; tested species: mouse**

Striatonigrostriatal circuit architecture for disinhibition of dopamine signaling.
Ambrosi P, Lerner TN
Cell reports (2022) 407: 111228. . **IHC; tested species: mouse**

Cone-Driven Retinal Responses Are Shaped by Rod But Not Cone HCN1.
Lankford CK, Umino Y, Poria D, Kefalov V, Solessio E, Baker SA
The Journal of neuroscience : the official journal of the Society for Neuroscience (2022) 4221: 4231-4249. . **IHC; tested species: mouse**

Access the online factsheet including applicable protocols at https://sysy.com/product/257004 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.