SYSY Antibodies

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# Prox1

**Cat.No. 509 005; Polyclonal Guinea pig 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**: not recommended<br>**IP**: not tested yet<br>**ICC**: 1 : 1000 up to 1 : 4000<br>**IHC**: 1 : 2000 (see remarks)<br>**IHC-P (FFPE)**: 1 : 100 up to 1 : 2000 |
| Immunogen | Synthetic peptide corresponding to residues near the carboxy terminus of mouse Prox1 (UniProt Id: P48437) |
| Reactivity | Reacts with: mouse (P48437), rat (D3ZU00).<br>Other species not tested yet. |
| Remarks | **IHC**: For optimal results in retina tissue, follow the retina protocol. |

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

## Background

The **pro**spero-related homeobo**x** transcription factor **1**, Prox1, is important for the embryonic development of various organs (1) including the eye, liver, pancreas, lymphatic system, heart and the central nervous system (CNS) (2). It is a regulator of cell division with impact on e.g. neurogenesis and cancer development and progression. In the CNS, the expression is not restricted to the embryonic development and to precursor cells. Prox1 is a well-known marker for granule cells of the dentate gyrus (DG) during embryonic development, adult neurogenesis but also for mature granule cells in the adult brain (3). Weaker expression can also be detected outside the DG of the adult brain. Prox1 was shown to be expressed in oligodendrocyte progenitors, e.g. in the subventricular zone and the corpus callosum (4) and in a subtype of cortical interneurons (5).

## Selected References for 509 005

Ageing promotes microglial accumulation of slow-degrading synaptic proteins.
Guldner IH, Wagner VP, Moran-Losada P, Shi SM, Golub SW, Hevler JF, Chen K, Meese BT, Ghoochani A, Pulido E, Oh HS, et al.
Nature (2026) : . . **IHC-P; tested species: mouse**

## Selected General References

Transcription factor PROX1: its role in development and cancer.
Elsir T et al. Cancer Metastasis Rev (2012) PubMed:22733308

Prox1 Is Required for Oligodendrocyte Cell Identity in Adult Neural Stem Cells of the Subventricular Zone.
Bunk EC et al. Stem Cells (2016) PubMed:27068685

PROX1: a lineage tracer for cortical interneurons originating in the lateral/caudal ganglionic eminence and preoptic area.
Rubin AN et al. PLoS One (2013) PubMed:24155945

Prox1 is required for granule cell maturation and intermediate progenitor maintenance during brain neurogenesis.
Lavado A et al. PLoS Biol (2010) PubMed:20808958

Prox1 expression patterns in the developing and adult murine brain.
Lavado A et al. Dev Dyn (2007) PubMed:17117441

Access the online factsheet including applicable protocols at https://sysy.com/product/509005 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.