SYSY Antibodies

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CSP

Cat.No. 154 004; 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**: 1 : 1000 (AP staining) **IP**: yes **ICC**: 1 : 500 up to 1 : 1000 **IHC**: 1 : 500 up to 1 : 1000 **IHC-P (FFPE)**: not tested yet **IHC-G**: 1 : 500 (see remarks)
Immunogen	Synthetic peptide corresponding to AA 182 to 198 from rat CSP (UniProt Id: P60905)
Reactivity	Reacts with: rat, mouse. Other species not tested yet.
Remarks	**IHC-G**: The following fixatives are possible: 3% glyoxal, 9% glyoxal.

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

Background

Cysteine **S**tring **P**roteins **CSP**s are composed of an N-terminal J-domain and a central palmitoylated cysteine string. This post-translational modification shifts the molecular weight of CSP 1 in brain from 23 kDa to 34 kDa and confers membrane targeting of the protein.
CSP has been initially identified as a synaptic vesicle protein which is involved in Ca^{2+} triggered neurotransmitter release. Later CSP was also found on Large Dense Core Vesicles (LDCVs) of pancreatic insulin secretory β-cells, chromaffin cells and adipocytes. It has been shown to interact with SNARE proteins like VAMP 2, VAMP 7 and syntaxin 4.

Selected General References

Interaction between constitutively expressed heat shock protein, Hsc 70, and cysteine string protein is important for cortical granule exocytosis in Xenopus oocytes.
Smith GB et al. J. Biol. Chem. (2005) PubMed:16055447

Phosphorylation of cysteine string protein in the brain: developmental, regional and synaptic specificity.
Evans GJ et al. Eur. J. Neurosci. (2005) PubMed:15926915

Cysteine string protein (CSP) inhibition of N-type calcium channels is blocked by mutant huntingtin.
Miller LC et al. J. Biol. Chem. (2003) PubMed:14570907

The synaptic vesicle protein, cysteine-string protein, is associated with the plasma membrane in 3T3-L1 adipocytes and interacts with syntaxin 4.
Chamberlain LH et al. J. Cell. Sci. (2001) PubMed:11148145

The cysteine-string domain of the secretory vesicle cysteine-string protein is required for membrane targeting.
Chamberlain LH et al. Biochem. J. (1998) PubMed:9761715

The molecular chaperone function of the secretory vesicle cysteine string proteins.
Chamberlain LH et al. J. Biol. Chem. (1997) PubMed:9395474

Identification of a novel cysteine string protein variant and expression of cysteine string proteins in non-neuronal cells.
Chamberlain LH et al. J. Biol. Chem. (1996) PubMed:8631751

Access the online factsheet including applicable protocols at https://sysy.com/product/154004 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.