SYSY Antibodies

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Sra1

Cat.No. 309 011; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized. Azide was added before lyophilization. For **reconstitution** add 100 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**: 1 : 100 up to 1 : 2000 (AP staining) **IP**: yes **ICC**: not recommended **IHC**: not recommended **IHC-P (FFPE)**: not tested yet
Clone	30A4
Subtype	IgG1 (κ light chain)
Immunogen	Synthetic peptide corresponding to AA 519 to 556 from mouse Sra1 (UniProt Id: Q7TMB8)
Reactivity	Reacts with: human (Q7L576), rat, mouse (Q7TMB8). Other species not tested yet.
Specificity	Specific for Sra 1 but may cross-react with CYFIP 2/PIR 121 due to high sequence homology.

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

Background

The formation of cellular projections like lamellipodia and ruffles is accompanied by de novo actin nucleation and polymerization of actin filaments. Several protein factors like the Arp 2/3 complex, WASP/Scar and small GTPases of the Rho family have been shown to participate in this process. The Arp 2/3 complex is activated by GTP-loaded Rac 1 via WAVE proteins. The **S**pecifically **Ra**c-associated protein or **Sra 1**, also referred to as cytoplasmic FMR 1 interacting protein 1, has been shown to interact with WAVE 2 and other proteins like Abi 1 at the tips of membrane protrusions.

Selected References for 309 011

Haploinsufficiency of Cyfip1 produces fragile X-like phenotypes in mice.
Bozdagi O, Sakurai T, Dorr N, Pilorge M, Takahashi N, Buxbaum JD
PloS one (2012) 78: e42422. . **WB; tested species: mouse**

WAVE2-Abi2 complex controls growth cone activity and regulates the multipolar-bipolar transition as well as the initiation of glia-guided migration.
Xie MJ, Yagi H, Kuroda K, Wang CC, Komada M, Zhao H, Sakakibara A, Miyata T, Nagata K, Oka Y, Iguchi T, et al.
Cerebral cortex (New York, N.Y. : 1991) (2013) 236: 1410-23. . **WB; tested species: mouse**

Filopodia formation in the absence of functional WAVE- and Arp2/3-complexes.
Steffen A, Faix J, Resch GP, Linkner J, Wehland J, Small JV, Rottner K, Stradal TE
Molecular biology of the cell (2006) 176: 2581-91. . **WB**

Selected General References

Sra-1 interacts with Kette and Wasp and is required for neuronal and bristle development in Drosophila.
Bogdan S et al. Development (2004) PubMed:15269173

Sra-1 and Nap1 link Rac to actin assembly driving lamellipodia formation.
Steffen A et al. EMBO J. (2004) PubMed:14765121

p140Sra-1 (specifically Rac1-associated protein) is a novel specific target for Rac1 small GTPase.
Kobayashi K et al. J. Biol. Chem. (1998) PubMed:9417078

Access the online factsheet including applicable protocols at https://sysy.com/product/309011 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.