SYSY Antibodies

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Cortactin

Cat.No. 313 011; 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 : 1000 (AP staining) **IP**: not tested yet **ICC**: not recommended **IHC**: not recommended **IHC-P (FFPE)**: not tested yet
Clone	10C6
Subtype	IgG2a (κ light chain)
Immunogen	Recombinant protein corresponding to AA 1 to 513 from human Cortactin (UniProt Id: Q14247)
Reactivity	Reacts with: rat (Q66HL2), mouse (Q60598). Other species not tested yet. Predicted to cross-react with human (Q14247), pig due to high sequence homology.

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

Background

Cortactin is a cortical actin binding protein and the major substrate for the tyrosine kinase v-Src. The interaction of its N-terminal acidic domain (NTA) with the actin nucleation factor Arp 2/3 links cytoskeletal organization with signal transduction. The carboxy terminus comprises a proline rich region and an SH3 domain that can interact with several scaffolding proteins like CortBP1 and Shank 3. In neurons cortactin is concentrated in dendritic spines and involved in spine targeting.

Selected References for 313 011

Cortactin promotes migration and platelet-derived growth factor-induced actin reorganization by signaling to Rho-GTPases.
Lai FP, Szczodrak M, Oelkers JM, Ladwein M, Acconcia F, Benesch S, Auinger S, Faix J, Small JV, Polo S, Stradal TE, et al.
Molecular biology of the cell (2009) 2014: 3209-23. . **WB**

Selected General References

Activity-dependent redistribution and essential role of cortactin in dendritic spine morphogenesis.
Hering H et al. J. Neurosci. (2003) PubMed:14684878

Src phosphorylation of cortactin enhances actin assembly.
Tehrani S et al. Proc. Natl. Acad. Sci. U.S.A. (2007) PubMed:17606906

Src, cortactin and Arp2/3 complex are required for E-cadherin-mediated internalization of Listeria into cells.
Sousa S et al. Cell. Microbiol. (2007) PubMed:17627624

Cortactin: the gray eminence of the cytoskeleton.
Cosen-Binker LI et al. Physiology (Bethesda) (2006) PubMed:16990456

Effect of Fgd1 on cortactin in Arp2/3 complex-mediated actin assembly.
Kim K et al. Biochemistry (2004) PubMed:14992579

Cortactin is necessary for E-cadherin-mediated contact formation and actin reorganization.
Helwani FM et al. J. Cell Biol. (2004) PubMed:15024035

The cortactin-binding postsynaptic density protein proSAP1 in non-neuronal cells.
Redecker P et al. J. Histochem. Cytochem. (2001) PubMed:11304802

Abp1p and cortactin, new "hand-holds" for actin.
Olazabal IM et al. J. Cell Biol. (2001) PubMed:11514584

Cortactin-Src kinase signaling pathway is involved in N-syndecan-dependent neurite outgrowth.
Kinnunen T et al. J. Biol. Chem. (1998) PubMed:9553134

Association of cortactin with developing neuromuscular specializations.
Peng HB et al. J. Neurocytol. (1997) PubMed:9368878

p80/85 cortactin associates with the Src SH2 domain and colocalizes with v-Src in transformed cells.
Okamura H et al. J. Biol. Chem. (1995) PubMed:7592885

Intercellular adhesion molecule 1 activation induces tyrosine phosphorylation of the cytoskeleton-associated protein cortactin in brain microvessel endothelial cells.
Durieu-Trautmann O et al. J. Biol. Chem. (1994) PubMed:7909803

Cortactin, an 80/85-kilodalton pp60src substrate, is a filamentous actin-binding protein enriched in the cell cortex.
Wu H et al. J. Cell Biol. (1993) PubMed:7680654

Access the online factsheet including applicable protocols at https://sysy.com/product/313011 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.