SYSY Antibodies

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Zyxin

Cat.No. 307 011; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized. Albumin and azide were added for stabilization. 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**: 1 : 100 **IHC**: not tested yet **IHC-P**: 1 : 200
Clone	164D4
Subtype	IgG1 (κ light chain)
Immunogen	Recombinant protein corresponding to AA 1 to 572 from human Zyxin (UniProt Id: Q15942)
Epitop	AA 352 to 357 from human Zyxin (UniProt Id: Q15942)
Reactivity	Reacts with: human (Q15942), rat, mouse (Q62523), hamster. Other species not tested yet.

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

Background

Cell migration requires the formation of motile organelles like lamellipodia and the adhesion of the cell to the extracellular substrate. These specialized sites, termed focal adhesions, link the extracellular matrix to the actin cytoskeleton.
The LIM domain protein **zyxin** probably plays a key role in the regulation of actin dynamics at focal adhesions, along stress fibers and at cell-cell contacts.
Zyxin contains three C-terminal LIM-domains. The LIM domain consists of a conserved double zinc finger protein module which also occurs in transcription factors. It mediates the interaction with a wide variety of other proteins including other LIM domain proteins, kinases, transcription factors and cytoskeleton associated proteins.

Selected References for 307 011

mTOR regulates expression of slit diaphragm proteins and cytoskeleton structure in podocytes.
Vollenbröker B, George B, Wolfgart M, Saleem MA, Pavenstädt H, Weide T
American journal of physiology. Renal physiology (2009) 2962: F418-26. . **WB, ICC**

Zyxin mediates actin fiber reorganization in epithelial-mesenchymal transition and contributes to endocardial morphogenesis.
Mori M, Nakagami H, Koibuchi N, Miura K, Takami Y, Koriyama H, Hayashi H, Sabe H, Mochizuki N, Morishita R, Kaneda Y, et al.
Molecular biology of the cell (2009) 2013: 3115-24. . **WB, ICC**

TES is a novel focal adhesion protein with a role in cell spreading.
Coutts AS, MacKenzie E, Griffith E, Black DM
Journal of cell science (2003) 116Pt 5: 897-906. . **WB, ICC**

The conformational state of Tes regulates its zyxin-dependent recruitment to focal adhesions.
Garvalov BK, Higgins TE, Sutherland JD, Zettl M, Scaplehorn N, Köcher T, Piddini E, Griffiths G, Way M
The Journal of cell biology (2003) 1611: 33-9. . **WB, ICC**

Zyxin is not colocalized with vasodilator-stimulated phosphoprotein (VASP) at lamellipodial tips and exhibits different dynamics to vinculin, paxillin, and VASP in focal adhesions.
Rottner K, Krause M, Gimona M, Small JV, Wehland J
Molecular biology of the cell (2001) 1210: 3103-13. . **WB, ICC**

GSK3 and lamellipodin balance lamellipodial protrusions and focal adhesion maturation in mouse neural crest migration.
Dobson L, Barrell WB, Seraj Z, Lynham S, Wu SY, Krause M, Liu KJ
Cell reports (2023) 429: 113030. . **ICC; tested species: mouse**

Regulation of matrix metalloproteinases (MMPs) expression and secretion in MDA-MB-231 breast cancer cells by LIM and SH3 protein 1 (LASP1).
Endres M, Kneitz S, Orth MF, Perera RK, Zernecke A, Butt E
Oncotarget (2016) 739: 64244-64259. . **WB**

Cell shape-dependent early responses of fibroblasts to cyclic strain.
Gadhari N, Charnley M, Marelli M, Brugger J, Chiquet M
Biochimica et biophysica acta (2013) 183312: 3415-3425. . **ICC; tested species: mouse**

Cell-penetrating peptides with intracellular actin-remodeling activity in malignant fibroblasts.
Delaroche D, Cantrelle FX, Subra F, Van Heijenoort C, Guittet E, Jiao CY, Blanchoin L, Chassaing G, Lavielle S, Auclair C, Sagan S, et al.
The Journal of biological chemistry (2010) 28510: 7712-21. . **ICC**

Domain analysis of alpha-actinin reveals new aspects of its association with F-actin during cytokinesis.
Low SH, Mukhina S, Srinivas V, Ng CZ, Murata-Hori M
Experimental cell research (2010) 31612: 1925-34. . **ICC**

Targeted disruption of the mouse Lipoma Preferred Partner gene.
Vervenne HB, Crombez KR, Delvaux EL, Janssens V, Van de Ven WJ, Petit MM
Biochemical and biophysical research communications (2009) 3792: 368-73. . **WB**

Access the online factsheet including applicable protocols at https://sysy.com/product/307011 or scan the QR-code.

FAQ - How should I store my antibody?

Shipping Conditions

- All our antibodies and control proteins / peptides are shipped lyophilized (vacuum freeze-dried) and are stable in this form 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. **They must not be stored in the freezer when still lyophilized!** Temperatures below zero may cause loss of performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long term storage (several months) may lead to aggregation.
- **Control peptides** should be kept at -20°C before reconstitution.

Long Term Storage after Reconstitution (General Considerations)

- The storage freezer must not be of the frost-free variety ("no-frost freezer"). This cycle between freezing and thawing (to reduce frost-build-up), which is exactly what should be avoided. For the same reason, antibody vials should be placed in an area of the freezer that has minimal temperature fluctuations, for instance towards the back rather than on a door shelf.
- Aliquot the antibody and store frozen (-20°C to -80°C). Avoid very small aliquots (below 20 µl) and use the smallest storage vial or tube possible. The smaller the aliquot, the more the stock concentration is affected by evaporation and adsorption of the antibody to the surface of the storage vial or tube. Adsorption of the antibody to the surface leads to a substantial loss of activity.
- The addition of glycerol to a final concentration of 50% lowers the freezing point of your stock and keeps your antibody at -20°C in liquid state. This efficiently avoids freeze and thaw cycles.

Product Specific Hints for Storage

Control proteins / peptides

- Store at -20°C to -80°C.

Monoclonal Antibodies

- **Ascites** and **hybridoma supernatant** should be stored at -20°C up to -80°C. **Prolonged storage at 4°C is not recommended!** Unlike serum, ascites may contain proteases that will degrade the antibodies.
- **Purified IgG** should be stored at -20°C up to -80°C. Adding a carrier protein like BSA will increase long term stability. Many of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Polyclonal Antibodies

- **Crude antisera**: With anti-microbials added, they may be stored at 4°C. However, frozen storage (-20°C up to -80°C) is preferable.
- **Affinity purified antibodies**: Less robust than antisera. Storage at -20°C up to -80°C is recommended. Adding a carrier protein like BSA will increase long term stability. Most of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Fluorescence-labeled Antibodies

- Store as a liquid with 1 : 1 (v/v) glycerol at -20°C. Protect these antibodies from light exposure.

Avoid repeated freeze-thaw cycles for all antibodies!

FAQ - How should I reconstitute my antibody?

Reconstitution

- All our purified antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the amount of deionized water given in the respective datasheet. If higher volumes are preferred, add water as mentioned above and then the desired amount of PBS and a stabilizing carrier protein (e.g. BSA) to a final concentration of 2%. Some of our antibodies already contain albumin. Take this into account when adding more carrier protein.
  For complete reconstitution, carefully remove the lid. After adding water, briefly vortex the solution. You can spin down the liquid by placing the vial into a 50 ml centrifugation tube filled with paper.
- If desired, add small amounts of azide or thimerosal to prevent microbial growth. This is especially recommended if you want to keep an aliquot a 4°C.
- After reconstitution of fluorescence-labeled antibodies, add 1 : 1 (v/v) glycerol to a final concentration of 50%. This lowers the freezing point of your stock and keeps your antibody in liquid state at -20°C.
- Glycerol may also be added to unlabeled primary antibodies. It is a suitable way to avoid freeze-thaw cycles.
- Please refer to our **tips and hints for subsequent storage** of reconstituted antibodies and control peptides and proteins.