

Zyxin

Cat.No. 307 011; 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 ₂ O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use.
Applications	WB: 1 : 100 up to 1 : 2000 (AP staining) IP: yes ICC: 1 : 100 IHC: not tested yet IHC-P/FFPE: not tested yet
Clone	164D4
Subtype	IgG1 (κ light chain)
Immunogen	Recombinant protein corresponding to AA 1 to 572 from human Zyxin (UniProt Id: Q15942)
Epitop	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.
Specificity	Specific for zyxin.

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

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 SYSY Antibodies

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) 296(2): 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) 20(13): 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) 116(Pt 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) 161(1): 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) 12(10): 3103-13. **WB, ICC**

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, Zerneck A, Butt E Oncotarget (2016) 7(39): 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) 1833(12): 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) 285(10): 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) 316(12): 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) 379(2): 368-73. **WB**

Retrograde fluxes of focal adhesion proteins in response to cell migration and mechanical signals.

Guo WH, Wang YL Molecular biology of the cell (2007) 18(11): 4519-27. **ICC**

Selected General References

Expression of VASP and zyxin in cochlear pillar cells: indication for actin-based dynamics?

Schick B, Praetorius M, Eigenthaler M, Mack A, Plinkert P, Walter U, Dazert S, Knipper M Cell and tissue research (2003) 311(3): 315-23.

Role of zyxin in differential cell spreading and proliferation of melanoma cells and melanocytes.

van der Gaag EJ, Leccia MT, Dekker SK, Jalbert NL, Amodeo DM, Byers HR The Journal of investigative dermatology (2002) 118(2): 246-54.

ActA and human zyxin harbour Arp2/3-independent actin-polymerization activity.

Fradelizi J, Noireaux V, Plastino J, Menichi B, Louvard D, Sykes C, Golsteyn RM, Friederich E Nature cell biology (2001) 3(8): 699-707.

Analysis of the alpha-actinin/zyxin interaction.

Li B, Trueb B The Journal of biological chemistry (2001) 276(36): 33328-35.

Targeting of zyxin to sites of actin membrane interaction and to the nucleus.

Nix DA, Fradelizi J, Bockholt S, Menichi B, Louvard D, Friederich E, Beckerle MC The Journal of biological chemistry (2001) 276(37): 34759-67.

Zyxin, a regulator of actin filament assembly, targets the mitotic apparatus by interacting with h-warts/LATS1 tumor suppressor.

Hirota T, Morisaki T, Nishiyama Y, Marumoto T, Tada K, Hara T, Masuko N, Inagaki M, Hatakeyama K, Saya H The Journal of cell biology (2000) 149(5): 1073-86.