α-actinin-2 (h2): 293T Lysate: sc-116257



The Power to Question

BACKGROUND

The spectrin gene family encodes a diverse group of cytoskeletal proteins that include spectrins, dystrophins and α -actinins. There are four tissue-specific α -actinins, namely α -actinin-1, α -actinin-2, α -actinin-3 and α -actinin-4, which are localized to muscle and non-muscle cells, including skeletal, cardiac and smooth muscle cells, as well as within the cytoskeleton. Each α -actinin protein contains one Actin-binding domain, two calponin-homology domains, two EF-hand domains and four spectrin repeats, through which they function as bundling proteins that can cross-link F-Actin, thus anchoring Actin to a variety of intracellular structures. Defects in the gene encoding α -actinin-4 are the cause of focal segmental glomerulosclerosis 1 (FSGS1), a common renal lesion characterized by decreasing kidney function and, ultimately, renal failure.

REFERENCES

- Youssoufian, H., McAfee, M. and Kwiatkowski, D.J. 1990. Cloning and chromosomal localization of the human cytoskeletal α-actinin gene reveals linkage to the β-spectrin gene. Am. J. Hum. Genet. 47: 62-71.
- Nishiyama, M., Ozturk, M., Frohlich, M., Mafune, K., Steele, G. and Wands, J.R. 1990. Expression of human α-actinin in human hepatocellular carcinoma. Cancer Res. 50: 6291-6294.
- Yürüker, B. and Niggli, V. 1992. α-actinin and vinculin in human neutrophils: reorganization during adhesion and relation to the Actin network. J. Cell Sci. 101: 403-414.
- 4. Knudsen, K.A., Soler, A.P., Johnson, K.R. and Wheelock, M.J. 1995. Interaction of α -actinin with the cadherin/catenin cell-cell adhesion complex via α -catenin. J. Cell Biol. 130: 67-77.
- 5. Reinhard, M., Zumbrunn, J., Jaquemar, D., Kuhn, M., Walter, U. and Trueb, B. 1999. An α -actinin binding site of Zyxin is essential for subcellular Zyxin localization and α -actinin recruitment. J. Biol. Chem. 274: 13410-13418.
- 6. Harper, B.D., Beckerle, M.C. and Pomiès, P. 2000. Fine mapping of the α -actinin binding site within cysteine-rich protein. Biochem. J. 350: 269-274.
- Gonzalez, A.M., Otey, C., Edlund, M. and Jones, J.C. 2001. Interactions of a hemidesmosome component and actinin family members. J. Cell Sci. 114: 4197-4206.
- Bois, P.R., Borgon, R.A., Vonrhein, C. and Izard, T. 2005. Structural dynamics of α-actinin-vinculin interactions. Mol. Cell. Biol. 25: 6112-6122.
- 9. Nyman-Huttunen, H., Tian, L., Ning, L. and Gahmberg, C.G. 2006. α -actinin-dependent cytoskeletal anchorage is important for ICAM-5-mediated neuritic outgrowth. J. Cell Sci. 119: 3057-3066.

CHROMOSOMAL LOCATION

Genetic locus: ACTN2 (human) mapping to 1q43.

STORAGE

Store at -20 $^{\circ}$ C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PRODUCT

 α -actinin-2 (h2): 293T Lysate represents a lysate of human α -actinin-2 transfected 293T cells and is provided as 100 μg protein in 200 μl SDS-PAGE buffer.

APPLICATIONS

 α -actinin-2 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive α -actinin-2 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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