



α -actinin-4 (h2): 293T Lysate: sc-176210

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

1. Yousoufian, H., et al. 1990. Cloning and chromosomal localization of the human cytoskeletal α -actinin gene reveals linkage to the β -spectrin gene. *Am. J. Hum. Genet.* 47: 62-72.
2. Nishiyama, M., et al. 1990. Expression of human α -actinin in human hepatocellular carcinoma. *Cancer Res.* 50: 6291-6294.
3. 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., et al. 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., et al. 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., et al. 2000. Fine mapping of the α -actinin binding site within cysteine-rich protein. *Biochem. J.* 350: 269-274.
7. Nyman-Huttunen, H., et al. 2006. α -actinin-dependent cytoskeletal anchorage is important for ICAM-5-mediated neuritic outgrowth. *J. Cell Sci.* 119: 3057-3066.

CHROMOSOMAL LOCATION

Genetic locus: ACTN4 (human) mapping to 19q13.2.

PRODUCT

α -actinin-4 (h2): 293T Lysate represents a lysate of human α -actinin-4 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

α -actinin-4 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive α -actinin-4 antibodies. Recommended use: 10-20 μ l per lane.

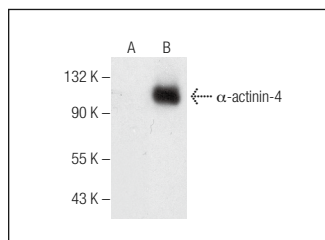
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

α -actinin-4 (B-11): sc-390180 is recommended as a positive control antibody for Western Blot analysis of enhanced human α -actinin-4 expression in α -actinin-4 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

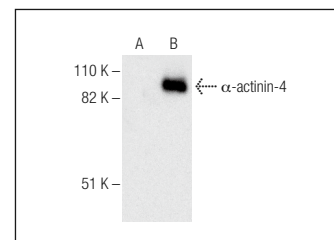
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



α -actinin-4 (B-11): sc-390180. Western blot analysis of α -actinin-4 expression in non-transfected: sc-117752 (A) and human α -actinin-4 transfected: sc-176210 (B) 293T whole cell lysates.



α -actinin-4 (B-11): sc-390180. Western blot analysis of α -actinin-4 expression in non-transfected: sc-117752 (A) and human α -actinin-4 transfected: sc-176210 (B) 293T whole cell lysates.

RESEARCH USE

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