SANTA CRUZ BIOTECHNOLOGY, INC.

# α-actinin-4 (N-17): sc-49333

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: ACTN4 (human) mapping to 19q13.2; Actn4 (mouse) mapping to 7 A3.

## SOURCE

α-actinin-4 (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of α-actinin-4 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-49333 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

α-actinin-4 (N-17) is recommended for detection of α-actinin-4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

α-actinin-4 (N-17) is also recommended for detection of α-actinin-4 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for α-actinin-4 siRNA (h): sc-43101, α-actinin-4 siRNA (m): sc-43102, α-actinin-4 shRNA Plasmid (h): sc-43101-SH, α-actinin-4 shRNA Plasmid (m): sc-43102-SH, α-actinin-4 shRNA (h) Lentiviral Particles: sc-43101-V and α-actinin-4 shRNA (m) Lentiviral Particles: sc-43102-V.

Molecular Weight of α-actinin-4: 105 kDa.

Positive Controls: α-actinin-4 (h2): 293T Lysate: sc-176210, HeLa whole cell lysate: sc-2200 or A-673 cell lysate: sc-2414.

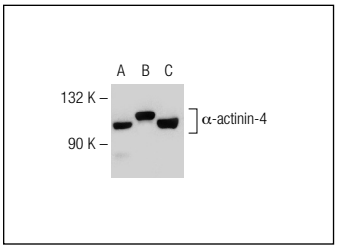
## RESEARCH USE

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

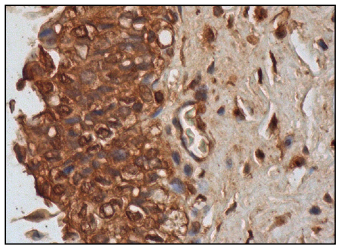
## STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA




α-actinin-4 (N-17): sc-49333. Western blot analysis of α-actinin-4 expression in non-transfected 293T: sc-117752 (**A**), human α-actinin-4 transfected 293T: sc-176210 (**B**) and A-673 (**C**) whole cell lysates.



α-actinin-4 (N-17): sc-49333. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic and nuclear staining of urothelial cells.

## SELECT PRODUCT CITATIONS


1. Meehan, D.T., et al. 2009. Biomechanical strain causes maladaptive gene regulation, contributing to Alport glomerular disease. Kidney Int. 76: 968-976.
2. Gong, D., et al. 2009. Quantitative proteomic profiling identifies new renal targets of copper(II)-selective chelation in the reversal of diabetic nephropathy in rats. Proteomics 9: 4309-4320.
3. Shao, H., et al. 2010. α-actinin-4 is essential for maintaining the spreading, motility and contractility of fibroblasts. PLoS ONE 5: e13921.
4. Hood, B.L., et al. 2010. Proteomic analysis of laser microdissected melanoma cells from skin organ cultures. J. Proteome Res. 9: 3656-3663.


## PROTOCOLS

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