

Profilin-1 (V-17): sc-30521

BACKGROUND

Profilins regulate actin polymerization by binding to and sequestering the actin monomer. Profilins act as a nucleotide exchange factor that charges actin with ATP after binding the actin monomer through a 1:1 stoichiometric relationship. Human profilin-1 and profilin-2 are encoded by two separate genes mapping to chromosomes 17p13.2 and 3q25.1, respectively. Both profilin-1 and profilin-2 are abundantly expressed in kidney. Profilin-1 is highly expressed in lung, liver, placenta and kidney while profilin-2 is highly expressed in brain and skeletal muscle. In axonal and dendritic processes of mouse brain, profilins co-localize with dyamin 1 and synapsin. Profilin may play a role in mediating cell adhesion. The overexpression of profilin in endothelial cells results in increased adhesion to fibronectin. In food allergy, plant profilin is considered a pan allergen. Case studies indicate individuals with allergies to various foods including celery, carrots, zucchini and peanuts are actually sensitive to the profilin proteins in these foods.

REFERENCES

1. Kwiatkowski, D.J., et al. 1990. Identification of the functional profilin gene, its localization to chromosome subband 17p13.3, and demonstration of its deletion in some patients with Miller-Dieker syndrome. *Am. J. Hum. Genet.* 46: 559-567.
2. Goldschmidt-Clermont, P.J., et al. 1992. The control of actin nucleotide exchange by thymosin β 4 and profilin. A potential regulatory mechanism for actin polymerization in cells. *Mol. Biol. Cell* 3: 1015-1024.
3. Valenta, R., et al. 1992. Profilins constitute a novel family of functional plant pan-allergens. *J. Exp. Med.* 175: 377-385.
4. Honore, B., et al. 1993. Cloning and expression of a novel human profilin variant, profilin II. *FEBS Lett.* 330: 151-155.
5. Naylor, S.L., et al. 1996. Report of the sixth international workshop on human chromosome 3 mapping 1995. *Cytogenet. Cell Genet.* 72: 255-270.

CHROMOSOMAL LOCATION

Genetic locus: PFN1 (human) mapping to 17p13.2; Pfn1 (mouse) mapping to 11 B3.

SOURCE

Profilin-1 (V-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Profilin-1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-30521 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Profilin-1 (V-17) is recommended for detection of Profilin-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Profilin-1 siRNA (h): sc-36316, Profilin-1 siRNA (m): sc-36317, Profilin-1 shRNA Plasmid (h): sc-36316-SH, Profilin-1 shRNA Plasmid (m): sc-36317-SH, Profilin-1 shRNA (h) Lentiviral Particles: sc-36316-V and Profilin-1 shRNA (m) Lentiviral Particles: sc-36317-V.

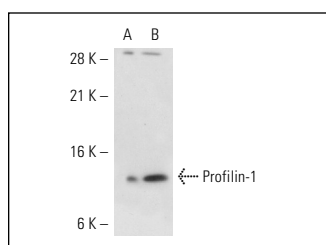
Molecular Weight of Profilin-1: 12-15 kDa.

Positive Controls: Profilin-1 (h): 293 Lysate: sc-110512, Hep G2 cell lysate: sc-2227 or human platelet extract: sc-363773.

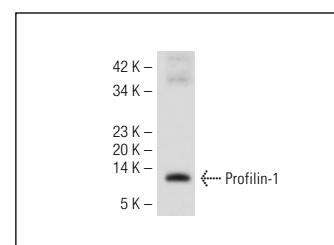
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Profilin-1 (V-17): sc-30521. Western blot analysis of Profilin-1 expression in non-transfected: sc-110760 (A) and human Profilin-1 transfected: sc-110512 (B) 293 whole cell lysates.



Profilin-1 (V-17): sc-30521. Western blot analysis of Profilin-1 expression in human platelet extract.

RESEARCH USE

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

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Try **Profilin-1 (B-10): sc-137235** or **Profilin-1 (H-4): sc-137236**, our highly recommended monoclonal alternatives to Profilin-1 (V-17).