

# Profilin-3 (D-12): sc-50957

## BACKGROUND

Profilins regulate Actin polymerization through binding and subsequently 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. The overexpression of profilin in endothelial cells results in increased adhesion to fibronectin. Plant profilin is considered a pan allergen, and case studies indicate that individuals with allergies to various foods including celery, carrots, zucchini and peanuts are actually sensitive to the profilin proteins in these foods. The profilin family of proteins includes Profilin-1, Profilin-2 and Profilin-3. Both Profilin-1 and Profilin-2 are abundantly expressed in kidney, while Profilin-3 is testis specific. Profilin-3 affects the structure of the cytoskeleton and may be involved in spermatogenesis.

## REFERENCES

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2. Goldschmidt-Clermont, P.J., et al. 1992. The control of Actin nucleotide exchange by thymosin  $\beta$ 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-2. *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.
6. Moldovan, N.I., et al. 1997. Regulation of endothelial cell adhesion by Profilin. *Curr. Biol.* 7: 24-30.
7. Witke, W., et al. 1998. In mouse brain Profilin-1 and Profilin-2 associate with regulators of the endocytic pathway and Actin assembly. *EMBO J.* 17: 967-976.
8. Braun, A., et al. 2002. Genomic organization of Profilin-3 and evidence for a transcript expressed exclusively in testis. *Gene* 283: 219-225.
9. Schmutz, J., et al. 2004. The DNA sequence and comparative analysis of human chromosome 5. *Nature* 431: 268-274.

## CHROMOSOMAL LOCATION

Genetic locus: PFN3 (human) mapping to 5q35.3; Pfn3 (mouse) mapping to 13 B1.

## SOURCE

Profilin-3 (D-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Profilin-3 of human origin.

## RESEARCH USE

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

## PRODUCT

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

Blocking peptide available for competition studies, sc-50957 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Profilin-3 (D-12) is recommended for detection of Profilin-3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Profilin-3 (D-12) is also recommended for detection of Profilin-3 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for Profilin-3 siRNA (h): sc-61407, Profilin-3 siRNA (m): sc-61408, Profilin-3 shRNA Plasmid (h): sc-61407-SH, Profilin-3 shRNA Plasmid (m): sc-61408-SH, Profilin-3 shRNA (h) Lentiviral Particles: sc-61407-V and Profilin-3 shRNA (m) Lentiviral Particles: sc-61408-V.

Molecular Weight of Profilin-3: 15 kDa.

## 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) 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.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.