

Shrm (T-17): sc-10309

BACKGROUND

The gene *shrm* encodes a PDZ domain protein which regulates aspects of cytoarchitecture required for proper neuralation. PDZ domains mediate protein-protein interactions which facilitate membrane protein localization and signaling complex assembly. Mutation of the mouse *Shrm* causes neural tube defects (NTDs) attributed to failure of the neural tube to close during development. Targeted mutation studies have identified a number of factors which regulate neural tube morphogenesis. *Shrm* is strongly expressed in neural epithelium at the time of cranial tube closure. *Shrm* is a cytoskeletal protein with a size of ~205 kDa which localizes to adherens junctions and directly binds F-Actin. The *Shrm* protein can exist in a short and long form, *ShrmS* and *ShrmL* respectively.

REFERENCES

- Chen, Z.F. and Behringer, R.R. 1995. *twist* is required in head mesenchyme for cranial neural tube morphogenesis. *Genes Dev.* 9: 686-699.
- Ponting, C.P., Phillips, C., Davies, K.E., and Blake, D.J. 1997. PDZ domains: targeting signalling molecules to sub-membranous sites. *Bioessays* 19: 469-479.
- Songyang, Z., Fanning, A.S., Fu, C., Xu, J., Marfatia, S.M., Chishti, A.H., Crompton, A., Chan, A.C., Anderson, J.M., and Cantley, L.C. 1997. Recognition of unique carboxyl-terminal motifs by distinct PDZ domains. *Science* 275: 73-77.
- Hildebrand, J.D. and Soriano, P. 1999. *Shroom*, a PDZ domain-containing actin-binding protein, is required for neural tube morphogenesis in mice. *Cell* 99: 485-497.
- Kuan, C.Y., Yang, D.D., Samanta Roy, D.R., Davis, R.J., Rakic, P., and Flavell, R.A. 1999. The *Jnk1* and *Jnk2* protein kinases are required for regional specific apoptosis during early brain development. *Neuron* 22: 667-676.

CHROMOSOMAL LOCATION

Genetic locus: *SHROOM3* (human) mapping to 4q21.1; *Shrm* (mouse) mapping to 5 E3.

SOURCE

Shrm (T-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of *Shrm* of mouse 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-10309 P, (100 µg 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

Shrm (T-17) is recommended for detection of *Shrm* long and short forms 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for *Shrm* siRNA (h): sc-42248, *Shrm* siRNA (m): sc-42249, *Shrm* shRNA Plasmid (h): sc-42248-SH, *Shrm* shRNA Plasmid (m): sc-42249-SH, *Shrm* shRNA (h) Lentiviral Particles: sc-42248-V and *Shrm* shRNA (m) Lentiviral Particles: sc-42249-V.

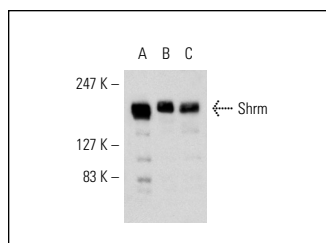
Molecular Weight of *Shrm*: 205 kDa.

Positive Controls: H4 cell lysate: sc-2408, IMR-32 cell lysate: sc-2409 or T98G cell lysate: sc-2294.

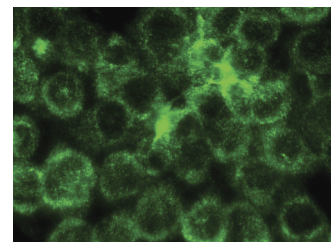
RECOMMENDED SECONDARY REAGENTS

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



Shrm (T-17): sc-10309. Western blot analysis of *Shrm* expression in H4 (A) IMR-32 (B) and T98G (C) whole cell lysates.



Shrm (T-17): sc-10309. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Taylor, J., et al. 2008. The scaffold protein POSH regulates axon outgrowth. *Mol. Biol. Cell* 19: 5181-5192.

RESEARCH USE

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

PROTOCOLS

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