

SMTNL1 (G-7): sc-390369

BACKGROUND

The cytoskeletal protein smoothelin is highly conserved among vertebrates and is expressed exclusively by contractile smooth muscle cells where it localizes to the filament network. Smoothelin associates with actin stress fibers but does not interact with desmin. SMTNL1 (smoothelin-like 1), also known as CHASM, is a 457 amino acid protein containing a CH (calponin-homology) domain. Belonging to the smoothelin family of smooth muscle-specific proteins, SMTNL1 may be involved in contractile activity. The gene encoding SMTNL1 maps to human chromosome 11, which houses over 1,400 genes and comprises nearly 4% of the human genome. Jervell and Lange-Nielsen syndrome, Jacobsen syndrome, Niemann-Pick disease, hereditary angioedema and Smith-Lemli-Opitz syndrome are associated with defects in genes that maps to chromosome 11.

REFERENCES

- Grossfeld, P.D., et al. 2004. The 11q terminal deletion disorder: a prospective study of 110 cases. *Am. J. Med. Genet. A* 129: 51-61.
- Kurita, R., et al. 2004. A novel smoothelin-like, Actin-binding protein required for choroidal fissure closure in zebrafish. *Biochem. Biophys. Res. Commun.* 313: 1092-1100.
- Taylor, T.D., et al. 2006. Human chromosome 11 DNA sequence and analysis including novel gene identification. *Nature* 440: 497-500.

CHROMOSOMAL LOCATION

Genetic locus: SMTNL1 (human) mapping to 11q12.1; Smtnl1 (mouse) mapping to 2 D.

SOURCE

SMTNL1 (G-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 255-287 within an internal region of SMTNL1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SMTNL1 (G-7) is available conjugated to agarose (sc-390369 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390369 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390369 PE), fluorescein (sc-390369 FITC), Alexa Fluor® 488 (sc-390369 AF488), Alexa Fluor® 546 (sc-390369 AF546), Alexa Fluor® 594 (sc-390369 AF594) or Alexa Fluor® 647 (sc-390369 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390369 AF680) or Alexa Fluor® 790 (sc-390369 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390369 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

SMTNL1 (G-7) is recommended for detection of SMTNL1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 SMTNL1 siRNA (h): sc-97014, SMTNL1 siRNA (m): sc-153640, SMTNL1 shRNA Plasmid (h): sc-97014-SH, SMTNL1 shRNA Plasmid (m): sc-153640-SH, SMTNL1 shRNA (h) Lentiviral Particles: sc-97014-V and SMTNL1 shRNA (m) Lentiviral Particles: sc-153640-V.

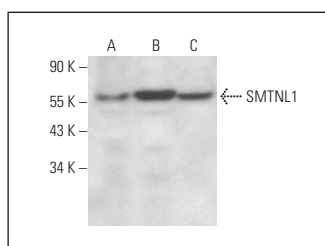
Molecular Weight of SMTNL1: 49 kDa.

Positive Controls: Sol8 cell lysate: sc-2249, SMTNL1 (h): 293T Lysate: sc-372366 or A-10 cell lysate: sc-3806.

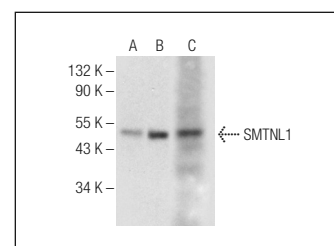
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



SMTNL1 (G-7): sc-390369. Western blot analysis of SMTNL1 expression in Sol8 (A), SJRH30 (B) and BC₃H1 (C) whole cell lysates.



SMTNL1 (G-7): sc-390369. Western blot analysis of SMTNL1 expression in non-transfected 293T: sc-117752 (A), human SMTNL1 transfected 293T: sc-372366 (B) and A-10 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Major, E., et al. 2021. Smoothelin-like protein 1 regulates the thyroid hormone-induced homeostasis and remodeling of C2C12 cells via the modulation of Myosin phosphatase. *Int. J. Mol. Sci.* 22: 10293.

RESEARCH USE

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

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