SANTA CRUZ BIOTECHNOLOGY, INC.

STOML3 (D-14): sc-84621

BACKGROUND

STOML3 [Stomatin (EPB72)-like 3], whose alternative names include Stomatin-like protein 3, Stomatin-related olfactory protein, SRO, SLP3, Epb7.2l, erythrocyte band 7 integral membrane protein or protein 7.2B, is a 291 amino acid single-pass type III membrane protein belonging to the band 7/mec-2 family. STOML3 is expressed in olfactory sensory neurons, with high expression in apical dendrites. STOML3 is also known to associate with A cyclase III and caveolin-1 in olfactory cilia. STOML3 is essential for regulating odorant signals in olfactory cilia lipid rafts and plays a role in mammalian mechanotransduction. Studies indicate that many ion channels of sensory neurons which depend on mechanical stimuli cannot function in the absence of STOML3. STOML3 contains two N-terminal hydrophobic domains and forms regions rich in β sheets and α helices, which are common to members of the Stomatin family. The gene encoding STOML3 maps to human chromosome 13q13.3.

REFERENCES

1. Stewart, G.W. 1997. Stomatin. Int. J. Biochem. Cell Biol. 29: 271-274.
2. Mannsfeldt, A.G., Carroll, P., Stucky, C.L. and Lewin, G.R. 1999. Stomatin, a MEC-2 like protein, is expressed by mammalian sensory neurons. Mol. Cell. Neurosci. 13: 391-404.
3. Kobayakawa, K., Hayashi, R., Morita, K., Miyamichi, K., Oka, Y., Tsuboi, A. and Sakano, H. 2002. Stomatin-related olfactory protein, SRO, specifically expressed in the murine olfactory sensory neurons. J. Neurosci. 22: 5931-5937.
4. Goldstein, B.J., Kulaga, H.M. and Reed, R.R. 2003. Cloning and characterization of SLP3: a novel member of the stomatin family expressed by olfactory receptor neurons. J. Assoc. Res. Otolaryngol. 4: 74-82.
5. Wetzel, C., Hu, J., Riethmacher, D., Benckendorff, A., Harder, L., Eilers, A., Moshourab, R., Kozlenkov, A., Labuz, D., Caspani, O., Erdmann, B., Machelska, H., Heppenstall, P.A. and Lewin, G.R. 2007. A stomatin-domain protein essential for touch sensation in the mouse. Nature 445: 206-209.
6. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 608327. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Kadurin, I., Huber, S. and Gründer, S. 2009. A single conserved proline residue determines the membrane topology of stomatin. Biochem. J. 418: 587-594.

CHROMOSOMAL LOCATION

Genetic locus: STOML3 (human) mapping to 13q13.3; Stoml3 (mouse) mapping to 3 C.

SOURCE

STOML3 (D-14) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of STOML3 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-84621 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

STOML3 (D-14) is recommended for detection of STOML3 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); non cross-reactive with STOML2.

STOML3 (D-14) is also recommended for detection of STOML3 in additional species, including equine, canine, bovine and porcine.

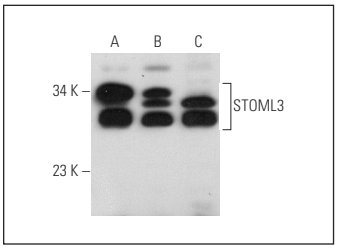
Suitable for use as control antibody for STOML3 siRNA (h): sc-76595, STOML3 siRNA (m): sc-153903, STOML3 shRNA Plasmid (h): sc-76595-SH, STOML3 shRNA Plasmid (m): sc-153903-SH, STOML3 shRNA (h) Lentiviral Particles: sc-76595-V and STOML3 shRNA (m) Lentiviral Particles: sc-153903-V.

Molecular Weight (predicted) of STOML3: 32 kDa.

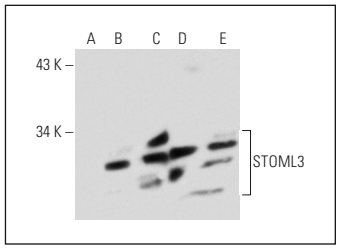
Molecular Weight (observed) of STOML3: 29-35 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, ES-2 cell lysate: sc-24674 or STOML3 (h): 293T Lysate: sc-114056.

DATA



STOML3 (D-14): sc-84621. Western blot analysis of STOML3 expression in WI 38 (**A**), ES-2 (**B**) and HeLa (**C**) whole cell lysates.



STOML3 (D-14): sc-84621. Western blot analysis of STOML3 expression in non-transfected 293T: sc-117752 (**A**), human STOML3 transfected 293T: sc-114056 (**B**), ES-2 (**C**), HeLa (**D**) and Jurkat (**E**) whole cell lysates.

STORAGE

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

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.