

RMDN3 (E-14): sc-160690



BACKGROUND

RMD3 (regulator of microtubule dynamics protein 3), also known as FAM82A2 (family with sequence similarity 82, member A2), FAM82C, PTPIP51 (protein tyrosine phosphatase-interacting protein 51) or cerebral protein 10, is a 470 amino acid protein belonging to the FAM82/RMD family that may play a role in differentiation and apoptosis of keratinocytes. In addition to exhibiting nuclear and mitochondrial membrane localization, RMDN3 also localizes to cytoplasm during interphase and spindle microtubules and spindle poles during mitosis. While widely expressed, RMDN3 is found at high levels in epidermis, seminiferous epithelium and fast twitch fibers of skeletal muscle. RMDN3 has also been found in hippocampal neurons, axons of the peripheral nervous system and ganglion cells of the autonomic nervous system. RMDN3 may function as a cellular signaling partner in angiogenesis and vascular remodeling, and overexpression of RMDN3 is known to induce apoptosis.

REFERENCES

1. Stenzinger, A., et al. 2005. The novel protein PTPIP51 exhibits tissue- and cell-specific expression. *Histochem. Cell Biol.* 123: 19-28.
2. Lv, B.F., et al. 2006. Protein tyrosine phosphatase interacting protein 51 (PTPIP51) is a novel mitochondria protein with an N-terminal mitochondrial targeting sequence and induces apoptosis. *Apoptosis* 11: 1489-1501.
3. Oishi, K., et al. 2007. RMD-1, a novel microtubule-associated protein, functions in chromosome segregation in *Caenorhabditis elegans*. *J. Cell Biol.* 179: 1149-1162.
4. Koch, P., et al. 2008. The novel protein PTPIP51 is expressed in human keratinocyte carcinomas and their surrounding stroma. *J. Cell. Mol. Med.* 12: 2083-2095.
5. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 611873. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Stenzinger, A., et al. 2009. Protein tyrosine phosphatase interacting protein 51 (PTPIP51) mRNA expression and localization and its in vitro interacting partner protein tyrosine phosphatase 1B (PTP1B) in human placenta of the first, second, and third trimester. *J. Histochem. Cytochem.* 57: 143-153.
7. Barop, J., et al. 2009. Differentiation-dependent PTPIP51 expression in human skeletal muscle cell culture. *J. Histochem. Cytochem.* 57: 425-435.
8. De Vos, K.J., et al. 2012. VAPB interacts with the mitochondrial protein PTPIP51 to regulate calcium homeostasis. *Hum. Mol. Genet.* 21: 1299-1311.
9. Bian, Y., et al. 2014. An enzyme assisted RP-RPLC approach for in-depth analysis of human liver phosphoproteome. *J. Proteomics* 96 : 253-262.

CHROMOSOMAL LOCATION

Genetic locus: RMDN3 (human) mapping to 15q15.1; Rmdn3 (mouse) mapping to 2 E5.

SOURCE

RMDN3 (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of RMDN3 of human 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-160690 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

RMDN3 (E-14) is recommended for detection of RMDN3 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).

Suitable for use as control antibody for RMDN3 siRNA (h): sc-90038, RMDN3 siRNA (m): sc-145057, RMDN3 shRNA Plasmid (h): sc-90038-SH, RMDN3 shRNA Plasmid (m): sc-145057-SH, RMDN3 shRNA (h) Lentiviral Particles: sc-90038-V and RMDN3 shRNA (m) Lentiviral Particles: sc-145057-V.

Molecular Weight of RMDN3: 52 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.

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.