SANTA CRUZ BIOTECHNOLOGY, INC.

PLEKHM1 (P-14): sc-161160

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The Power to Question

BACKGROUND

PLEKHM1 (Pleckstrin homology domain-containing family M member 1), also known as 162 kDa adapter protein, is a 779 amino acid protein that contains two Pleckstrin homology (PH) domains, which are found in proteins that are involved in intracellular signaling. PLEKHM1 is located in the cytoplasm where it is involved in osteoclast vesicular transport and is therefore an essential protein for bone resorption. Individuals having defects in PLEKHM1 are afflicted with osteopetrosis autosomal recessive type 6 (OPTB6), a rare genetic disease that is characterized by abnormally dense bone due to ineffective bone resorption. Specifically, it is likely that mutations in the PLEKHM1 gene affect endosomal acidification/maturation and TRACP exocytosis, which has implications on osteoclast-osteoblast cross-talk.

REFERENCES

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3. Frattini, A., et al. 2007. The dissection of human autosomal recessive osteopetrosis identifies an osteoclast-poor form due to RANKL deficiency. Cell Cycle. 6: 3027-3033.
4. Van Wesenbeeck, L., et al. 2007. Involvement of PLEKHM1 in osteoclastic vesicular transport and osteopetrosis in incisors absent rats and humans. J. Clin. Invest. 117: 919-930.
5. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611466. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Del Fattore, A., et al. 2008. Genetics, pathogenesis and complications of osteopetrosis. Bone 42: 19-29.
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8. Villa, A., et al. 2009. Infantile malignant, autosomal recessive osteopetrosis: the rich and the poor. Calcif. Tissue Int. 84: 1-12.
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CHROMOSOMAL LOCATION

Genetic locus: PLEKHM1 (human) mapping to 17q21.2; Plekhm1 (mouse) mapping to 11 E1.

STORAGE

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

SOURCE

PLEKHM1 (P-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PLEKHM1 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-161160 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PLEKHM1 (P-14) is recommended for detection of PLEKHM1 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); non cross-reactive with PLEKHM2 or PLEKHM3 .

Suitable for use as control antibody for PLEKHM1 siRNA (h): sc-93882, PLEKHM1 siRNA (m): sc-152320, PLEKHM1 shRNA Plasmid (h): sc-93882-SH, PLEKHM1 shRNA Plasmid (m): sc-152320-SH, PLEKHM1 shRNA (h) Lentiviral Particles: sc-93882-V and PLEKHM1 shRNA (m) Lentiviral Particles: sc-152320-V.

Molecular Weight of PLEKHM1: 117 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.

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.