SANTA CRUZ BIOTECHNOLOGY, INC.

OSTM1 (S-15): sc-168858

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

OSTM1 (osteopetrosis associated transmembrane protein 1), also known as gl (gray-lethal) or HSPC019, is a 338 amino acid single-pass type I membrane protein that is expressed primarily in osteoclasts and melanocytes as well as brain, kidney and spleen. Bone autosomal recessive osteopetrosis (ARO) is the most severe form of hereditary bone disease whose cellular basis is in the osteoclast and is characterized by abnormally dense bone, due to defective resorption of immature bone. ARO is suggested to be caused by mutations in the OSTM1 gene. The disorder occurs in two forms: a severe autosomal recessive form occurring in utero, infancy, or childhood, and a benign autosomal dominant form occurring in adolescence or adulthood. Defects in the OSTM1 gene are also the cause of the spontaneous gl mutant, which is responsible for a coat color defect in mice.

REFERENCES

1. Rajapurohitam, V., et al. 2001. The mouse osteopetrotic grey-lethal mutation induces a defect in osteoclast maturation/function. Bone 28: 513-523.
2. Chalhoub, N., et al. 2003. Grey-lethal mutation induces severe malignant autosomal recessive osteopetrosis in mouse and human. Nat. Med. 9: 399-406.
3. Ramírez, A., et al. 2004. Identification of a novel mutation in the coding region of the grey-lethal gene OSTM1 in human malignant infantile osteopetrosis. Hum. Mutat. 23: 471-476.
4. Blin-Wakkach, C., et al. 2004. Osteopetrosis, from mouse to man. Med. Sci. 20: 61-67.
5. Pangrazio, A., et al. 2006. Mutations in OSTM1 (grey lethal) define a particularly severe form of autosomal recessive osteopetrosis with neural involvement. J. Bone Miner. Res. 21: 1098-1105.
6. Lange, P.F., et al. 2006. CLC-7 requires OSTM1 as a β-subunit to support bone resorption and lysosomal function. Nature 440: 220-223.
7. Feigin, M.E., et al. 2008. OSTM1 regulates β-catenin/Lef1 interaction and is required for Wnt/β-catenin signaling. Cell. Signal. 20: 949-957.
8. Pata, M., et al. 2008. OSTM1 bone defect reveals an intercellular hematopoietic crosstalk. J. Biol. Chem. 283: 30522-30530.
9. Maranda, B., et al. 2008. Clinical and cellular manifestations of OSTM1-related infantile osteopetrosis. J. Bone Miner. Res. 23: 296-300.

CHROMOSOMAL LOCATION

Genetic locus: OSTM1 (human) mapping to 6q21; Ostm1 (mouse) mapping to 10 B2.

SOURCE

OSTM1 (S-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of OSTM1 of human origin.

STORAGE

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

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-168858 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

OSTM1 (S-15) is recommended for detection of OSTM1 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).

OSTM1 (S-15) is also recommended for detection of OSTM1 in additional species, including bovine and porcine.

Suitable for use as control antibody for OSTM1 siRNA (h): sc-95126, OSTM1 siRNA (m): sc-151337, OSTM1 shRNA Plasmid (h): sc-95126-SH, OSTM1 shRNA Plasmid (m): sc-151337-SH, OSTM1 shRNA (h) Lentiviral Particles: sc-95126-V and OSTM1 shRNA (m) Lentiviral Particles: sc-151337-V.

Molecular Weight of OSTM1: 37 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.