

Sclerostin (N-22): sc-130258

BACKGROUND

Sclerosteosis (SOST), an autosomal recessive sclerosing bone dysplasia, and Van Buchem disease, a closely related disorder, cause massive bone overgrowth. SOST is associated with mutations in the SOST gene and leads to gigantism, entrapment of the seventh and eighth cranial nerves and possibly also distortion of the facies. Van Buchem disease is associated with a 52 kb deletion downstream of the SOST gene that probably affects transcription of the gene. Sclerostin, the protein encoded by the SOST gene, is important for bone homeostasis. It is a secreted protein that inhibits bone formation. Sclerostin is generally expressed at low levels, but high expression of Sclerostin can be detected in bone, cartilage, liver, bone marrow and kidney tissue.

REFERENCES

1. Kusu, N., et al. 2003. Sclerostin is a novel secreted osteoclast-derived bone morphogenetic protein antagonist with unique ligand specificity. *J. Biol. Chem.* 278: 24113-24117.
2. Sutherland, M.K., et al. 2004. Sclerostin promotes the apoptosis of human osteoblastic cells: a novel regulation of bone formation. *Bone* 35: 828-835.
3. Winkler, D.G., et al. 2005. Sclerostin inhibition of Wnt-3a-induced C3H10T1/2 cell differentiation is indirect and mediated by bone morphogenetic proteins. *J. Biol. Chem.* 280: 2498-2502.

CHROMOSOMAL LOCATION

Genetic locus: SOST (human) mapping to 17q21.31; Sost (mouse) mapping to 11 D.

SOURCE

Sclerostin (N-22) is a purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of Sclerostin of human origin.

PRODUCT

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

APPLICATIONS

Sclerostin (N-22) is recommended for detection of Sclerostin of mouse 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), immunohistochemistry (including paraffin-embedded sections) (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 Sclerostin siRNA (h): sc-61503, Sclerostin siRNA (m): sc-61504, Sclerostin shRNA Plasmid (h): sc-61503-SH, Sclerostin shRNA Plasmid (m): sc-61504-SH, Sclerostin shRNA (h) Lentiviral Particles: sc-61503-V and Sclerostin shRNA (m) Lentiviral Particles: sc-61504-V.

Molecular Weight of Sclerostin: 23 kDa.

Positive Controls: mouse liver extract: sc-2256.

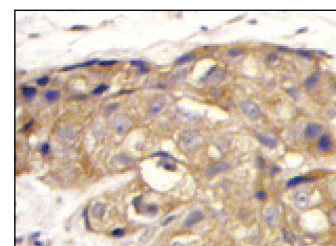
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



Sclerostin (N-22): sc-130258. Western blot analysis of Sclerostin expression in mouse liver tissue extract.



Sclerostin (N-22): sc-130258. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast carcinoma tissue showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

1. Didangelos, A., et al. 2010. Proteomics characterization of extracellular space components in the human aorta. *Mol. Cell. Proteomics* 9: 2048-2062.
2. Duque, G., et al. 2011. Attenuated anabolic response to exercise in lamin A/C haploinsufficient mice. *Bone* 49: 412-418.
3. Delgado-Calle, J., et al. 2011. Osteocyte deficiency in hip fractures. *Calcif. Tissue Int.* 89: 327-334.

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.