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Sclerostin (C-11): sc-518161

BACKGROUND

Sclerosteosis (SOST), an autosomal recessive sclerosing bone dysplasia, and Van Buchem disease, a closely related disorder, cause abnormal, progressive 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.
4. Li, X., et al. 2005. Sclerostin binds to LRP5/6 and antagonizes canonical Wnt signaling. *J. Biol. Chem.* 280: 19883-19887.
6. van Bezooijen, R.L., et al. 2005. Bone morphogenetic proteins and their antagonists: the Sclerostin paradigm. *J. Endocrinol. Invest.* 28: 15-17.

CHROMOSOMAL LOCATION

Genetic locus: SOST (human) mapping to 17q21.31.

SOURCE

Sclerostin (C-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 31-52 near the N-terminus of Sclerostin of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Sclerostin (C-11) is available conjugated to agarose (sc-518161 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518161 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518161 PE), fluorescein (sc-518161 FITC), Alexa Fluor[®] 488 (sc-518161 AF488), Alexa Fluor[®] 546 (sc-518161 AF546), Alexa Fluor[®] 594 (sc-518161 AF594) or Alexa Fluor[®] 647 (sc-518161 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-518161 AF680) or Alexa Fluor[®] 790 (sc-518161 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

Sclerostin (C-11) is recommended for detection of Sclerostin of human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for Sclerostin siRNA (h): sc-61503, Sclerostin shRNA Plasmid (h): sc-61503-SH and Sclerostin shRNA (h) Lentiviral Particles: sc-61503-V.

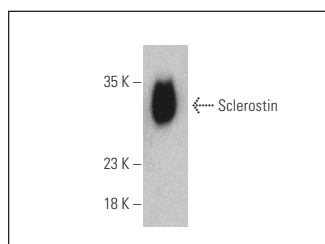
Molecular Weight of Sclerostin: 23 kDa.

Positive Controls: human eye extract: sc-364223.

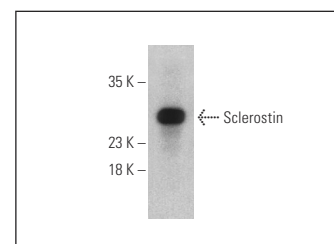
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BPHRP: sc-516102 or m-IgGκ BPHRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BPFITC: sc-516140 or m-IgGκ BPE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



Sclerostin (C-11): sc-518161. Western blot analysis of human recombinant Sclerostin. Detection reagent used: m-IgGκ BPHRP: sc-516102.



Sclerostin (C-11): sc-518161. Western blot analysis of Sclerostin expression in human eye tissue extract. Detection reagent used: m-IgGκ BPHRP: sc-516102.

SELECT PRODUCT CITATIONS

1. Lee, H.H., et al. 2022. Osteoclast and Sclerostin expression in osteocytes in the femoral head with risedronate therapy in patients with hip fractures: a retrospective comparative study. *Medicina* 58: 1566.
2. Oh, H., et al. 2022. Sclerostin aggravates Insulin signaling in skeletal muscle and hepatic steatosis via upregulation of ER stress by mTOR-mediated inhibition of autophagy under hyperlipidemic conditions. *J. Cell. Physiol.* 237: 4226-4237.

STORAGE

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

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