Mouse SOST/Sclerostin Antibody

Monoclonal Rat IgG_{2B} Clone # 248121

Catalog Number: MAB1589

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse SOST in direct ELISAs and Western blots. In direct ELISAs, this antibody does not cross-react with recombinant human SOST.
Source	Monoclonal Rat IgG_{2B} Clone # 248121
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse SOST Gln24-Tyr211 Accession # AAI37834
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant Mouse SOST/Sclerostin (Catalog # 1589-ST)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

SOST, also known as sclerostin, is a member of the cerberus/DAN family, a group of secreted glycoproteins characterized by a cysteine-knot motif. Cerberus/DAN family members are putative BMP antagonists, and include Dan, Cerberus, Gremlin, PRDC, and Caronte. While the overall sequence identity between members of the family is low, they have conserved spacing of six cysteine residues. Cerberus and Dan have an additional cysteine residue used for dimerization; however, SOST does not and is secreted as a monomer. SOST was originally identified as an important regulator of bone homeostasis. Positional cloning studies identified that mutations in the SOST gene can cause sclerosteosis and van Buchem disease, bone dysplasia disorders characterized by progressive skeletal overgrowth. Significant levels of SOST expression are detected in bone, cartilage, kidney, and liver. SOST is expressed by osteoclasts in developing bones of mouse embryos, including both intramembranously forming skull bones and endochondrally forming long bones. SOST plays a physiological role as a negative regulator of bone formation by repressing BMP-induced osteogenesis. SOST has been shown to have unique ligand specificity, binding BMP-5, -6, and -7 with high affinity and BMP-2 and -4 with low affinity. This seems to be the first example of a BMP antagonist being localized to osteoclasts, cells derived from the hematopoietic lineage, that function to degrade bone matrix. Recombinant human SOST preparations from R&D Systems bind BMP-5 and BMP-6 in a functional ELISA. Human and mouse SOST share 88% amino acid identity (1-3).

References:

1. Kusu, N. *et al.* (2003) J. Biol. Chem. **278**:24113.
2. Balemans, W. *et al.* (2001) Hum. Mol. Genet. **10**:537.
3. Brunkow, M.E. *et al.* (2001) Am. J. Hum. Genet. **68**:577.