Mouse SOST/Sclerostin Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1589

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse SOST/Sclerostin in direct ELISAs and Western blots. In direct ELISAs, less than 2% cross-reactivity with recombinant human SOST is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse SOST/Sclerostin Gln24-Tyr211 Accession # NP_077769
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.

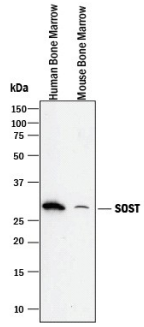
APPLICATIONS

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	2 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below

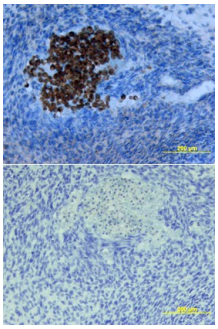
DATA

Western Blot



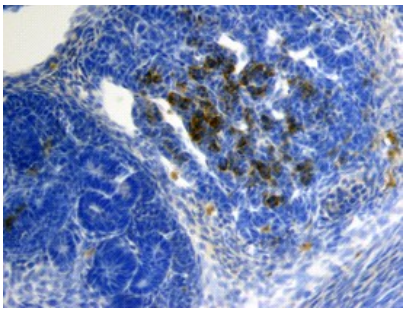
Detection of Human and Mouse SOST/Sclerostin by Western Blot. Western blot shows lysates of human bone marrow and mouse bone marrow. PVDF membrane was probed with 2 µg/mL of Goat Anti-Mouse SOST/Sclerostin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1589) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for SOST/Sclerostin at approximately 28 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



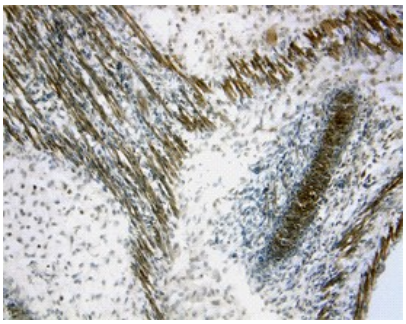
SOST/Sclerostin in Mouse Embryo. SOST/Sclerostin was detected in immersion fixed frozen sections of mouse embryo (kidney) using Goat Anti-Mouse SOST/Sclerostin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1589) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Lower panel shows a lack of labeling if primary antibodies are omitted and tissue is stained only with secondary antibody followed by incubation with detection reagents. Specific staining was localized to glomeruli. View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.

Immunohistochemistry



SOST/Sclerostin in Mouse Embryo. SOST/Sclerostin was detected in immersion fixed frozen sections of mouse embryo (adrenal gland) using Goat Anti-Mouse SOST/Sclerostin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1589) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.

Immunohistochemistry



SOST/Sclerostin in Mouse Embryo. SOST/Sclerostin was detected in immersion fixed frozen sections of mouse embryo (15 d.p.c.) using Goat Anti-Mouse SOST/Sclerostin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1589) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 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.

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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. 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.

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