SANTA CRUZ BIOTECHNOLOGY, INC.

OPG (N-20): sc-8468

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Bone morphogenesis and remodeling involve the formation of bone from osteoblasts and the resorption of bone by osteoclasts. The cytokine osteoprotegerin (OPG), also designated osteoclastogenesis inhibitory factor (OCIF), is known to inhibit osteoclast formation. A secreted glycoprotein, OPG is a member of the TNF receptor family that increases bone density and volume. OPG is thought to inhibit osteoclastogenesis by disrupting the cell-to-cell signaling between osteoblastic stromal cells and osteoclast progenitors. OPG is known to bind to TRAIL, a death domain-containing protein, and to inhibit TRAIL apoptosis in Jurkat cells. OPG also binds to osteoclast differentiation factor (ODF), also known as TRANCE/RANKL, a membrane-bound protein belonging to the TNF ligand family. Both TNFα and TNFβ upregulate OPG expression, while the bone resorbing agent prostaglandin E2 downregulates OPG.

CHROMOSOMAL LOCATION

Genetic locus: TNFRSF11B (human) mapping to 8q24.12; Tnfrsf11b (mouse) mapping to 15 D1.

SOURCE

OPG (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of OPG of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-8468 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

OPG (N-20) is recommended for detection of OPG of mouse, rat 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).

OPG (N-20) is also recommended for detection of OPG in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for OPG siRNA (h): sc-40152, OPG siRNA (m): sc-40153, OPG shRNA Plasmid (h): sc-40152-SH, OPG shRNA Plasmid (m): sc-40153-SH, OPG shRNA (h) Lentiviral Particles: sc-40152-V and OPG shRNA (m) Lentiviral Particles: sc-40153-V.

Molecular Weight of OPG monomer: 60 kDa.

Molecular Weight of OPG homodimer: 120 kDa.

Positive Controls: rat bone marrow extract.

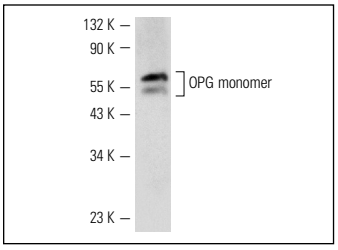
RESEARCH USE

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

STORAGE

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

DATA



OPG (N-20): sc-8468. Western blot analysis of OPG monomer expression in rat bone marrow extract.

SELECT PRODUCT CITATIONS

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4. Tan, L., et al. 2009. Osteoprotegerin and ligand of receptor activator of nuclear factor κB expression in ovariectomized rats during tooth movement. Angle Orthod. 79: 292-298.
5. Mikami, S., et al. 2009. Increased RANKL expression is related to tumour migration and metastasis of renal cell carcinomas. J. Pathol. 218: 530-539.
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8. Garcia, V.G., et al. 2011. Treatment of experimental periodontal disease with antimicrobial photodynamic therapy in nicotine-modified rats. J. Clin. Periodontol. 38: 1106-1114.