

OPG (H-249): sc-11383

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 TNF α and TNF β upregulate OPG expression, while the bone resorbing agent prostaglandin E2 down-regulates OPG.

CHROMOSOMAL LOCATION

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

SOURCE

OPG (H-249) is a rabbit polyclonal antibody raised against amino acids 153-401 of OPG of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for ChIP application, sc-11383 X, 200 μ g/0.1 ml.

APPLICATIONS

OPG (H-249) 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 μ g per 100-500 μ g 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).

OPG (H-249) 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.

OPG (H-249) X TransCruz antibody is recommended for ChIP assays.

Molecular Weight of OPG monomer: 60 kDa.

Molecular Weight of OPG homodimer: 120 kDa.

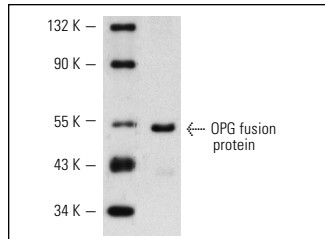
STORAGE

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.

DATA



OPG (H-249): sc-11383. Western blot analysis of human recombinant OPG fusion protein.

SELECT PRODUCT CITATIONS

- Weitzmann, M.N., et al. 2002. Increased production of IL-7 uncouples bone formation from bone resorption during estrogen deficiency. *J. Clin. Invest.* 110: 1643-1650.
- Wu, K.J., et al. 2002. c-Myc activates protein kinase A (PKA) by direct transcriptional activation of the PKA catalytic subunit β (PKA-C β) gene. *Oncogene* 21: 7872-7882.
- Uveges, T.E., et al. 2008. Cellular mechanism of decreased bone in Brl mouse model of OI: imbalance of decreased osteoblast function and increased osteoclasts and their precursors. *J. Bone Miner. Res.* 23: 1983-1994.
- Alonso, V., et al. 2009. Phytoestrogen modulation of bone-related cytokines and its impact on cell viability in human prostate cancer cells. *Life Sci.* 85: 421-430.
- Moreno-Rubio, J., et al. 2010. Nonsteroidal antiinflammatory drugs and prostaglandin E₂ modulate the synthesis of osteoprotegerin and RANKL in the cartilage of patients with severe knee osteoarthritis. *Arthritis Rheum.* 62: 478-488.
- Seeherman, H.J., et al. 2010. rhBMP-2 induces transient bone resorption followed by bone formation in a nonhuman primate core-defect model. *J. Bone Joint Surg. Am.* 92: 411-426.
- Kambe, K., et al. 2012. Osteoprotegerin expression in bone marrow by treatment with tocilizumab in rheumatoid arthritis. *Rheumatol. Int.* 32: 2669-2674.



Try **OPG (E-10): sc-390518** or **OPG (4H219): sc-71747**, our highly recommended monoclonal alternatives to OPG (H-249). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **OPG (E-10): sc-390518**.