

Osteoprotegerin Human E. coli

Product Data Sheet

Type: Recombinant	Cat. No.:	
Source: E. coli	RBG10257010	(10 µg)
Species: Human	RBG10257050	(50 µg)
Other names: OPG, Osteoclastogenesis inhibitory factor, OCIF	RBG10257100	(100 µg)

Description

Osteoprotegerin (OPG) is a member of the TNFR superfamily that can act as a decoy receptor for RANKL. Binding of soluble OPG to sRANKL inhibits osteoclastogenesis by interrupting the signaling between stromal cells and osteoclastic progenitor cells, thereby leading to excess accumulation of bone and cartilage. OPG is expressed in a wide variety of tissues, including the adult heart, lung, kidney, liver, spleen, prostate, lymph node, and bone marrow. OPG is secreted both as a monomeric and a dimeric protein. Its primary structure consists of seven distinct domains, four of which correspond to the extracellular cysteine-rich domains of TNFR proteins and constitute the soluble OPG. Recombinant Human OPG is a soluble 20.0 kDa protein containing 174 amino acid residues.

Introduction to the Molecule

Osteoprotegerin (OPG) or osteoclastogenesis inhibitory factor (OCIF) is a secretory glycoprotein belonging to TNF receptor superfamily. OPG consists of 401 amino acid residues, it has a molecular weight of 60 kDa as a monomer and 120 kDa as a disulfide-linked dimer and is produced in different tissues, e.g. bone, skin, liver, stomach, intestine and lung. Osteoprotegerin inhibits the recruitment, proliferation and activation of osteoclasts. Osteoclast formation activity may be monitored principally by determination of concentration ratio of osteoprotegerin ligand (OPGL)/OPG. Alteration of this ratio may be the cause of bone loss in many imbalances in bone metabolism such as osteoporosis, osteopetrosis, hypercalcemia, metastatic osteolytic lesions and rheumatic bone degradation.

Research topic

Bone and cartilage metabolism

Amino Acid Sequence

METFPKYLH YDEETSHQLL CDKCPPGTYL KQHCTAKWKT VCAPCPDHYY TDSWHTSDEC LYCSPVCKEL QYVKQECNRT
HNRVCECKEG RYLEIEFCLK HRSCPPGFGV VQAGTPERN T VCKRCPDGGF SNETSSKAPC RKHTNCSVFG LLLTQKGNAT
HDNICS GNSE STQK

Source

E. coli

Purity

98%

Biological Activity

Determined by its ability to neutralize the stimulation of U937 cells treated with 10 ng/ml of soluble RANKL (sRANKL).

Endotoxin

Endotoxin level is <0.1 ng/µg of protein (<1EU/µg).

Reconstitution

Centrifuge the vial prior to opening. Reconstitute in 5mM Tris, pH 7.5 to a concentration of 0.1-1.0 mg/ml. Do not vortex. For extended storage, it is recommended to further dilute in a buffer containing a carrier protein (example 0.1% BSA) and store in working aliquots at -20°C to -80°C

Storage, Stability/Shelf Life

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