Recombinant Human Osteoprotegerin

#R00183

Size: 10 μg/100 μg/500 μg

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.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

Warning: This product is intended for scientific research only. It is not to be used for medical or diagnostic procedures in humans or animals, nor as a food, cosmetic, or household product.

Background

Osteoprotegerin (OPG), also named osteoclastogenesis inhibitory factor (OCIF), and tumor necrosis factor receptor superfamily member 11B (TNFRSF11B), is a TNFRSF11B-encoded protein in humans. OPG is a 401 a.a. basic glycoprotein which comprises 7 structural domains. It is either a 60 kDa monomer or a 120 kDa dimer linked by disulfide bridges. OPG acts as a decoy receptor for the receptor activator of nuclear factor kappa B ligand (RANKL) and inhibits the activation of osteoclasts and promotes osteoclast apoptosis in vitro and may also play a role in preventing arterial calcification. OPG has been applied to decrease bone resorption in women with postmenopausal osteoporosis and in patients with lytic bone metastases. Mature human OPG shares 86 %, 87 %, 92 %, 92 % and 88 % amino acid sequence identity with mouse, rat, equine, canine and bovine OPG, respectively.

AA Sequence

ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAK
WKTVCAPCPDHYYTDSWHTSDECLYCSPVCKELQY
VKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGF
GVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKH
TNCSVFGLLLTQKGNATHDNICSGNSESTQK

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/ml. Stock solutions should be apportioned into working aliquots and stored at ≤ -20°C. Further dilutions should be made in appropriate buffered solutions.

Product Specification

Synonyms	TNFRSF11B, Osteoclastogenesis Inhibitory Factor, Tumor Necrosis Factor Receptor Superfamily Member 11B
Accession	O00300
GeneID	4982
Species	Human
Source	Escherichia coli.
Molecular Weight	Approximately 19.7 kDa, a single non-glycosylated polypeptide chain containing 173 amino acids.
Purity	> 95 % by SDS-PAGE and HPLC analyses.
Biological Activity	Fully biologically active when compared to standard. The ED_{50} as determined by neutralizing

	the stimulation of U937 cells is less than 10 ng/ml, corresponding to a specific activity of > 1.0×10^5 IU/mg in the presence of 10 ng/mL soluble rHuRANKL (sRANKL).
Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Formulation	Lyophilized from a 0.2 μm filtered concentrated solution in 20 mM PB,150 mM NaCl, pH 6.0.
Endotoxin	Less than 1 EU/μg of rHuOPG as determined by LAL method.