

TNFRSF11B/OPG Protein, Rhesus Macaque (hFc)

Cat. No.:	HY-P74661
Synonyms:	OCIF; OPG; OPGtumor necrosis factor receptor superfamily member 11B
Species:	Rhesus Macaque
Source:	HEK293
Accession:	XP_001096915 (M28-L428)
Gene ID:	701850
Molecular Weight:	Approximately 80-95 kDa

PROPERTIES

AA Sequence	<pre> MNKLLCCALV FLDISIKWTT QETFPKYLH YDQETSHQLL CDKCPPGTYL KQHCTAKWKT VCAPCPDHYY TDSWHTSDEC LYCSPVCKEL QYVKQECNRT HNRVCECKEG RYLEIEFCLK HRSCPPGFGV VQAGTPERN VCKRCPDGGF SNETSSKAPC RKHTNCSVFG LLLTQKGNAT HDNICSGNSE STQKCGIDVT LCEEAFFRFA VPTKFTPNWL SVLVDNLPGT KVNAESVERI KRRHSSQEQT FQLLKLWKHQ NKDQDIVKKI IQDIDLCEMS VQRHIGHANL TFEQLRSLME SLPGKKVGAE DIEKTTKACK PSDQILKLLS LWRINKGDQD TLKGLMHALK HSKTYHFPKT VTQSLKKTIR FLHSFTMYKL YQKLFLEMIG NQVQSVKISC L </pre>
Biological Activity	Measured by its ability to inhibit TRAIL-mediated cytotoxicity using L 929 mouse fibroblast cells treated with TRAIL. The ED ₅₀ for this effect is 6.472 ng/mL in the presence of 20 ng/mL of recombinant human TRAIL, corresponding to a specific activity is 1.545×10 ^[5] units/mg.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4. Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

Osteoprotegerin (OPG), a glycoprotein, belongs to TNF receptor superfamily. OPG is expressed in many tissues besides osteoblasts, including heart, kidney, liver, spleen, and bone marrow. Human osteoprotegerin shares <85% aa sequence identity with mouse and rat. Mouse OX40 shares 94.5% aa sequence identity with rat^[1]. Osteoprotegerin can bind to RANKL and inhibit the binding between TNFSF11 and RANKL, thereby neutralizing the RANKL function in osteoclastogenesis. Osteoprotegerin also protects large blood vessels from medial calcification. Increased osteoprotegerin levels have been consistently associated with the incidence and prevalence of coronary artery disease^{[1][3]}. Osteoprotegerin is also involved in multiple processes of cancers, such as tumor survival, epithelial to mesenchymal transition (EMT), neo-angiogenesis, invasion, and metastasis^[2]. Osteoprotegerin plays a critical role in bone remodeling, and has osteoprotective effect^[1].

REFERENCES

- [1]. Boyce BF, et al. Biology of RANK, RANKL, and osteoprotegerin. *Arthritis Res Ther*. 2007;9 Suppl 1(Suppl 1):S1.
- [2]. Wang Y, et al. The roles of osteoprotegerin in cancer, far beyond a bone player. *Cell Death Discov*. 2022 May 6;8(1):252.
- [3]. Venuraju SM, et al. Osteoprotegerin as a predictor of coronary artery disease and cardiovascular mortality and morbidity. *J Am Coll Cardiol*. 2010 May 11;55(19):2049-61.
- [4]. Capparelli C, et al. Sustained antiresorptive effects after a single treatment with human recombinant osteoprotegerin (OPG): a pharmacodynamic and pharmacokinetic analysis in rats. *J Bone Miner Res*. 2003 May;18(5):852-8.
- [5]. Candido R, et al. Human full-length osteoprotegerin induces the proliferation of rodent vascular smooth muscle cells both in vitro and in vivo. *J Vasc Res*. 2010;47(3):252-61.

Caution: Product has not been fully validated for medical applications. For research use only.

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