

Product Data Sheet

TNFRSF11B/OPG Protein, Human (HEK293, His)

Cat. No.:	HY-P70805
Synonyms:	Tumor Necrosis Factor Receptor Superfamily Member 11B; Osteoclastogenesis Inhibitory Factor; Osteoprotegerin; TNFRSF11B; OCIF; OPG
Species:	Human
Source:	HEK293
Accession:	O00300 (E22-L401)
Gene ID:	4982
Molecular Weight:	54-60 kDa

PROPERTIES

AA Sequence	ETFPPKYLHY	DEETSHQLLC	DKCPPGTYLK	Q Η C Τ A K W K T V
	САРСРDНYYT	DSWHTSDECL	YCSPVCKELQ	YVKQECNRTH
	NRVCECKEGR	YLEIEFCLKH	RSCPPGFGVV	QAGTPERNTV
	CKRCPDGFFS	NETSSKAPCR	K H T N C S V F G L	LLTQKGNATH
	DNICSGNSES	TQKCGIDVTL	CEEAFFRFAV	PTKFTPNWLS
	VLVDNLPGTK	VNAESVERIK	RQHSSQEQTF	QLLKLWKHQN
	KDQDIVKKII	QDIDLCENSV	QRHIGHANLT	FEQLRSLMES
	LPGKKVGAED	ΙΕΚΤΙΚΑϹΚΡ	SDQILKLLSL	WRIKNGDQDT
	LKGLMHALKH	S К Т Ү Н F P K T V	TQSLKKTIRF	LHSFTMYKLY
	QKLFLEMIGN	QVQSVKISCL		
Biological Activity	1. The ability to inhibit TR. of 10.6 - 96.32 ng/mL.	AIL-mediated cytotoxicity us	sing L 929 mouse fibroblast o	cells treated with TRAIL has an ED_{50} value
	2. Measured by its ability t ₅₀ for this effect is 150.2 ng	o inhibit TRAIL-mediated cy g/mL, corresponding to a sp	rtotoxicity using A549 cells ir ecific activity is 6.658×10 ³ ur	n the presence of 200 ng/mL TRAIL. The ED nits/mg.
Appearance	Lyophilized powder.			
Formulation	Lyophilized from a 0.2 μm filtered solution of 20 mM PB, 150 mM NaCl, pH 7.4.			
Endotoxin Level	<1 EU/µg, determined by LAL method.			
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).			
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 con	tinental US;may vary elsewł	nere.	

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 ${ m rat}^{[1]}.$
	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.