

TNFRSF11B/OPG Protein, Mouse (HEK293, His)

Cat. No.:	HY-P71017
Synonyms:	Tumor necrosis factor receptor superfamily member 11B; Osteoclastogenesis inhibitory factor; Osteoprotegerin; Tnfrsf11b; Ocif; Opg
Species:	Mouse
Source:	HEK293
Accession:	O08712 (E22-L401)
Gene ID:	18383
Molecular Weight:	50-65 kDa

PROPERTIES

AA Sequence	<pre> E T L P P K Y L H Y D P E T G H Q L L C D K C A P G T Y L K Q H C T V R R K T L C V P C P D H S Y T D S W H T S D E C V Y C S P V C K E L Q S V K Q E C N R T H N R V C E C E E G R Y L E I E F C L K H R S C P P G S G V V Q A G T P E R N T V C K K C P D G F F S G E T S S K A P C I K H T N C S T F G L L L I Q K G N A T H D N V C S G N R E A T Q K C G I D V T L C E E A F F R F A V P T K I I P N W L S V L V D S L P G T K V N A E S V E R I K R R H S S Q E Q T F Q L L K L W K H Q N R D Q E M V K K I I Q D I D L C E S S V Q R H L G H S N L T T E Q L L A L M E S L P G K K I S P E E I E R T R K T C K S S E Q L L K L L S L W R I K N G D Q D T L K G L M Y A L K H L K T S H F P K T V T H S L R K T M R F L H S F T M Y R L Y Q K L F L E M I G N Q V Q S V K I S C L </pre>
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4.
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. 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 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
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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. In mice, Osteoprotegerin is involved in B cell maturation and the generation of efficient antibody responses^{[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]. Schoppet M, et al. RANK ligand and osteoprotegerin: paracrine regulators of bone metabolism and vascular function. *Arterioscler Thromb Vasc Biol*. 2002 Apr 1;22(4):549-53.
- [4]. Vanderkerken K, et al. Recombinant osteoprotegerin decreases tumor burden and increases survival in a murine model of multiple myeloma. *Cancer Res*. 2003 Jan 15;63(2):287-9.
- [5]. Ashcroft AJ, et al. Colonic dendritic cells, intestinal inflammation, and T cell-mediated bone destruction are modulated by recombinant osteoprotegerin. *Immunity*. 2003 Dec;19(6):849-61.
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Caution: Product has not been fully validated for medical applications. For research use only.

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