RANKL/TNFSF11 Protein, Cynomolgus (HEK293, Fc)

Cat. No.:	HY-P75999
Synonyms:	Tumor necrosis factor ligand superfamily member 11; RANKL; CD254; ODF; OPGL; TNFSF11; TRANCE
Species:	Cynomolgus
Source:	HEK293
Accession:	A0A7N9DBU4 (G136-D317)
Gene ID:	/
Molecular Weight:	Approximately 56 kDa

PROPERTIES

AA Sequence	G S Q H I R A E K A M V D G S W L D L A K R S K L E A Q P F A H L T I N A T N I P T G S H K V S L S S W Y H D R G W A K I S N M T F S N G K L I V N Q D G F Y Y L Y A N I C F R H H E T S G D L A T E Y L Q L M V Y V T K T S I K I P S S H T L M K G G S T K Y W S G N S E F H F Y S I N V G G F F K L R S G E E I S V E V S N P S L L D P D Q D A T Y F G A F K V R D I D
Biological Activity	The bioactivity was determined by measuring the ability of RANKL to induce TRAP activity in RAW 264.7 cells. The ED_{50} for this effect is ≤10 ng/mL, corresponding to a specific activity is ≥1×10^5 U/mg
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.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. 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	RANKL (TNFSF11) belongs to TNF family. RANKL is a type II transmembrane protein and is a receptor activator of NF-κB (RANK) ligand. RANKL is an activator of RANK. RANKL binds to RANK and induces the differentiation of monocyte/macrophage-lineage cells into osteoclasts and leads to osteoclast precursor maturation. In bone tissue, RANKL is expressed by osteoblasts, osteocytes and immune cells, especially in osteoblasts and osteocytes[1]. RANKL is also expressed

by T cells and increases proliferation and survival of dendritic cells[2].
RANKL consists of cytoplasmic domain (1-47), helical domain (48-68), and extracellular domain (69-317). The soluble chain (140-317) is released when cleaved by enzymes such as matrix metalloproteinases (MMP3 or 7) and ADAM[1][3].
RANKL is critical for osteoclasts maturation, bone modeling, and bone remodeling, as well as the development of lymph nodes (LNs)[1].

REFERENCES

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[3]. Tobeiha M, et al. RANKL/RANK/OPG Pathway: A Mechanism Involved in Exercise-Induced Bone Remodeling. Biomed Res Int. 2020 Feb 19;2020:6910312.

[4]. Mikami S, et al. Increased RANKL expression is related to tumour migration and metastasis of renal cell carcinomas. J Pathol. 2009 Aug;218(4):530-9.

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[6]. Lloyd SA, et al. Soluble RANKL induces high bone turnover and decreases bone volume, density, and strength in mice. Calcif Tissue Int. 2008 May;82(5):361-72.

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