RANKL/TNFSF11 Protein, Human

Cat. No.:	HY-P7424
Synonyms:	rHuRANK L/TNFSF11; TRANCE; CD254
Species:	Human
Source:	E. coli
Accession:	O14788 (I140-D317)
Gene ID:	8600
Molecular Weight:	Approximately 20 kDa

PROPERTIES

AA Sequence	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 D I P S 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 I 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 ED_{50} is 0.15 μg/mL as measured.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of 20 mM Tris-HCl, 150 mM NaCl, pH 8.0.
Endotoxin Level	<1.0 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].

Human RANKL shares 82.02% and 84.44% common aa identity with mouse and rat respectively. Human 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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