


## Human RANKL protein

Cat #: PRP100262

Size: 50µg/500µg

### Product Information

	<b>Product Name:</b> Human RANKL protein		
<b>REF</b>	<b>Catalog Number:</b> PRP100262	<b>LOT</b>	<b>Lot Number:</b> Refer to product label
	<b>Purity:</b> > 95 % as determined by SDS-PAGE		
	<b>Storage:</b> Store at -20°C		<b>Preparation method:</b> Human Cells
	<b>Shipping:</b> The product is shipped at ambient temperature.		

**Background:** Tumor necrosis factor ligand superfamily member 11, also known as Receptor activator of nuclear factor kappa-B ligand, Osteoprotegerin ligand, TNFSF11, RANKL, TRANCE, OPG and CD254, is a single-pass type II membrane protein which belongs to the tumor necrosis factor family. The receptor activator of nuclear factor-kappaB ligand (RANKL), its cognate receptor RANK, and its natural decoy receptor osteoprotegerin have been identified as the final effector molecules of osteoclastic bone resorption. RANK and RANKL are key regulators of bone remodeling and regulate T cell/dendritic cell communications, and lymph node formation. Moreover, RANKL and RANK are expressed in mammary gland epithelial cells and control the development of a lactating mammary gland during pregnancy. Genetically, RANKL and RANK are essential for the development and activation of osteoclasts and bone loss in response to virtually all triggers tested. Inhibition of RANKL function via the natural decoy receptor osteoprotegerin (OPG, TNFRSF11B) prevents bone loss in postmenopausal osteoporosis and cancer metastases. Importantly, RANKL appears to be the pathogenetic principle that causes bone and cartilage destruction in arthritis. RANK-RANKL signaling not only activates a variety of downstream signaling pathways required for osteoclast development, but crosstalk with other signaling pathways also fine-tunes bone homeostasis both in normal physiology and disease. In addition, RANKL and RANK have essential roles in lymph node formation, establishment of the thymic microenvironment, and development of a lactating mammary gland during pregnancy.

**Sequence:** Amino acid sequence derived from human TNFSF11 (O14788-2) (Gly 63-Asp 244) was expressed.

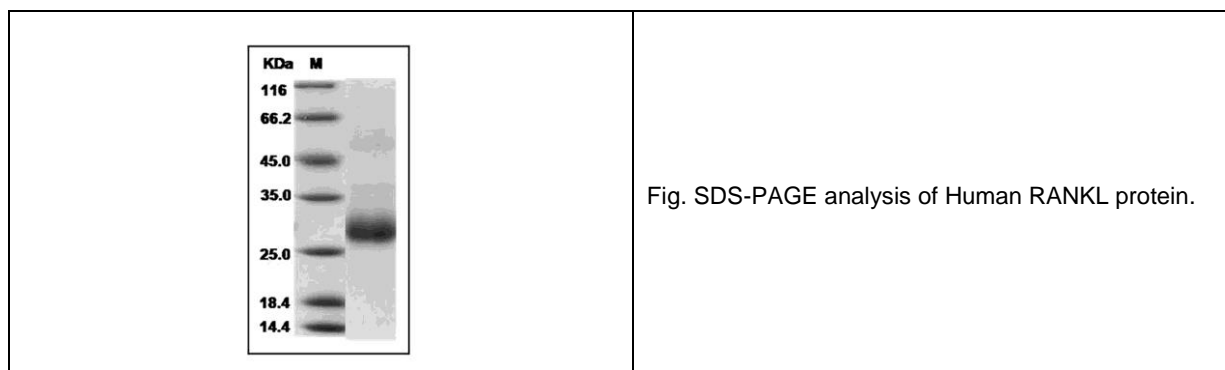
**Protein length:** The recombinant human TNFSF11 consists of 182 amino acids and has a calculated molecular mass of 20.5 kDa. In SDS-PAGE under reducing conditions, the apparent molecular mass of the protein is approximately 27 kDa due to the glycosylation.

**Formulation:** Lyophilized from sterile PBS, pH 7.4.

**Storage Instructions:** Lyophilized Human RANKL protein product should be stored desiccated below -18°C. Upon

reconstitution, the protein should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

**Usage notes:** Always centrifuge tubes before opening. It is recommended to reconstitute the lyophilized Human RANKL protein in sterile ddH<sub>2</sub>O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.



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