# Recombinant Human TRANCE/TNFSF11/RANK L

Catalog Number: 390-TN

## DESCRIPTION

**Source**

Mouse myeloma cell line, NS0-derived human TRANCE/TNFSF11/RANK L protein

| | | | |
|---|---|---|---|
| MHHHHHHHHHH | GGGSGGGSGGGS | IEGR | Human TRANCE (Gly64-Asp245) Accession # AAC51762 |

N-terminus C-terminus

| | |
|---|---|
| **N-terminal Sequence Analysis** | Met |
| **Predicted Molecular Mass** | 23 kDa |

## SPECIFICATIONS

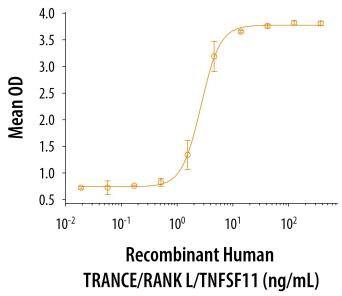
| | |
|---|---|
| **SDS-PAGE** | 35 kDa, reducing conditions |
| **Activity** | Measured by its ability to induce osteoclast differentiation of RAW 264.7 mouse monocyte/macrophage cells. The $ED_{50}$ for this effect is 1.5-7.5 ng/mL in the presence of 2.5 µg/mL of a cross-linking antibody, Mouse Anti-polyHistidine Monoclonal Antibody (Catalog # MAB050). |
| **Endotoxin Level** | <0.10 EU per 1 µg of the protein by the LAL method. |
| **Purity** | >90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining. |
| **Formulation** | Lyophilized from a 0.2 µm filtered solution in MOPS and NaCl with BSA as a carrier protein. See Certificate of Analysis for details. |

## PREPARATION AND STORAGE

| | |
|---|---|
| **Reconstitution** | Reconstitute at 100 µg/mL in sterile PBS containing at least 0.1% human or bovine serum albumin. |
| **Shipping** | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. |
| **Stability & Storage** | **Use a manual defrost freezer and avoid repeated freeze-thaw cycles.**<br>• 12 months from date of receipt, -20 to -70 °C as supplied.<br>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.<br>• 3 months, -20 to -70 °C under sterile conditions after reconstitution. |

## DATA

**Bioactivity**




**Bioactivity of Human TRANCE / RANK L / TNFSF11 Protein**
Recombinant human TRANCE / RANK L / TNFSF11 (Catalog # 390-TN) induces osteoclast differentiation of the RAW264.7 mouse monocyte/macrophage cell line. The $ED_{50}$ for this effect is 1.5-7.5 ng/mL in the presence of 2.5 µg/mL of a cross-linking antibody, Mouse Anti-polyHistidine.



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## BACKGROUND

RANK Ligand (receptor activator of NF-κB ligand [RANKL], also called TNF-related activation-induced cytokines (TRANCE), osteoprotegerin ligand [OPGL], and osteoclast differentiation factor [ODF]), is a member of the tumor necrosis factor (TNF) family. RANK Ligand was originally identified as an immediate early gene up-regulated by T cell receptor stimulation. The human RANK Ligand cDNA encodes a type II transmembrane protein of 317 amino acids with a predicted cytoplasmic domain of 47 amino acids, a 21 amino acids transmembrane region, and an extracellular domain of 249 amino acids. The extracellular domain contains two potential N-linked glycosylation sites. Mouse and human RANK Ligand share 85% amino acid identity. RANK Ligand is primarily expressed in T cells and T cell rich organs, such as thymus and lymph nodes. The multi-functions of RANK Ligand include induction of activation of the c-jun N-terminal kinase, enhancement of T cell growth and dendritic cell function, induction of osteoclastogenesis, and lymph node organogenesis. RANK is the cell surface signaling receptor of RANK Ligand. RANK has been shown to undergo receptor clustering during signal transduction. Osteoprotegerin, a soluble member of the TNF receptor family which binds RANK Ligand, is a naturally occurring decoy receptor that counterbalances the effects of RANK Ligand.

**References:**

1. Wong, B.R. *et al.* (1997) J. Biol. Chem. **272**:25190.
2. Anderson, D.M. *et al.* (1997) Nature **390**:175.
3. Nakagawa, N. *et al.* (1998) Biochem. Biophys. Res. Commun. **245**:382.
4. Kong, Y-Y. *et al.* (1999) Nature **397**:315.



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