

# Mouse RANKL / OPGL / TNFSF11 / CD254 Protein (Fc Tag)

Catalog Number: 50343-M01H



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

Ly109I; ODF; OPG; OPGL; RANKL; Trance

### Protein Construction:

A DNA sequence encoding the extracellular domain of mouse TNFSF11 (AAC40113.1) (Arg 72-Asp 316) was fused with the Fc region of human IgG1 at the N-terminus.

**Source:** Mouse

**Expression Host:** HEK293 Cells

## QC Testing

**Purity:** > 87 % as determined by SDS-PAGE

### Bio Activity:

**Immobilized mouse Fc-TNFSF11 at 10 µg/ml (100 µl/well) can bind biotinylated human TNFRSF11B-His (Cat:10271-H08H). The EC<sub>50</sub> of biotinylated human TNFRSF11B-His (Cat:10271-H08H) is 0.07-0.17 µg/ml.**

### Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Glu

### Molecular Mass:

The recombinant mouse TNFSF11/Fc is a disulfide-linked homodimer. The reduced monomer comprises 505 amino acids and has a calculated molecular mass of 56 kDa. The apparent molecular mass of the monomer is approximately 50 kDa in SDS-PAGE under reducing conditions.

### Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Storage:

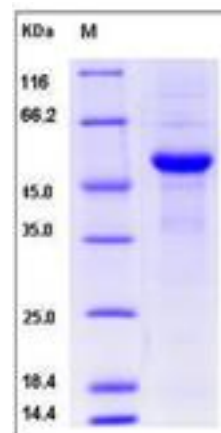
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

Tumor necrosis factor ligand superfamily member 11, also known as Receptor activator of nuclear factor kappa-B ligand, Osteoprotegerin ligand, TNFSF11, RANKL, TRANCE, OPGL 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.

## References

1. Takayanagi H, *et al.* (2002) Signaling crosstalk between RANKL and interferons in osteoclast differentiation. *Arthritis Res.* 4 Suppl 3: S227-32.
2. Nakashima T, *et al.* (2003) RANKL and RANK as novel therapeutic targets for arthritis. *Curr Opin Rheumatol.* 15(3): 280-7.
3. Schwarz EM, *et al.* (2007) Clinical development of anti-RANKL therapy. *Arthritis Res Ther.* 9 Suppl 1: S7.

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