

# Active Recombinant Human TNFSF11/RANKL/CD254 Protein

Catalog No.: RP00183 **Recombinant**

## Sequence Information

Species	Gene ID	Swiss Prot
Human	8600	O14788

### Tags

N-His

### Synonyms

TNFSF11;CD254;ODF;OPGL;OPTB2;RANK L;TNLG6B;TRANCE;hRANKL2;sOdf

## Product Information

Source	Purification
HEK293 cells	> 90% by SDS-PAGE.

### Endotoxin

< 0.1 EU/μg of the protein by LAL method.

### Formulation

Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4. Contact us for customized product form or formulation.


### Reconstitution

Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stabilizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

## Contact

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## Background

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. TNFSF11 is a ligand for osteoprotegerin and functions as a key factor for osteoclast differentiation and activation. TNFSF11 was shown to be a dendritic cell survival factor and is involved in the regulation of T cell-dependent immune response. T cell activation was reported to induce expression of this gene and lead to an increase of osteoclastogenesis and bone loss. This protein was shown to activate antiapoptotic kinase AKT/PKB through a signaling complex involving SRC kinase and tumor necrosis factor receptor-associated factor (TRAF) 6, which indicated this protein may have a role in the regulation of cell apoptosis. Targeted disruption of the related gene in mice led to severe osteopetrosis and a lack of osteoclasts. The deficient mice exhibited defects in early differentiation of T and B lymphocytes, and failed to form lobulo-alveolar mammary structures during pregnancy.

## Basic Information

### Description

Active Recombinant Human TNFSF11/RANKL/CD254 Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Gly136-Asp317) of human TRANCE/RANK L/TNFSF11 (Accession #NP\_143026.1) fused with a 6×His tag at the N-terminus.

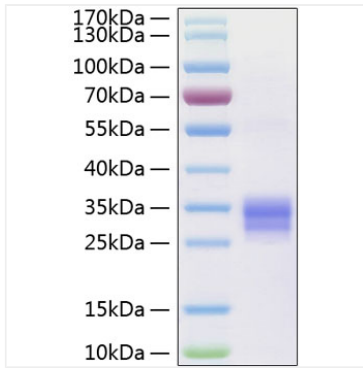
### Bio-Activity

1. Measured by its binding ability in a functional ELISA. Immobilized Human TNFSF11 Protein at 2 μg/mL (100 μL/well) can bind Mouse TNFRSF11B with a linear range of 0.049-13.74 ng/mL. 2. Measured by its ability to induce osteoclast differentiation of RAW 264.7 mouse monocyte/macrophage cells. The ED50 for this effect is 10.85-43.42 ng/mL, corresponding to a specific activity of 2.30×10<sup>4</sup>~9.22×10<sup>4</sup> units/mg.

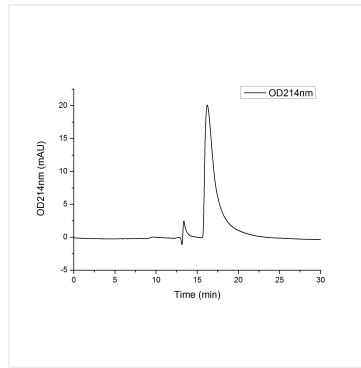
### Storage

Store the lyophilized protein at -20°C to -80 °C for long term. After reconstitution, the protein solution is stable at -20 °C for 3 months, at 2-8 °C for up to 1 week. Avoid repeated freeze/thaw cycles.

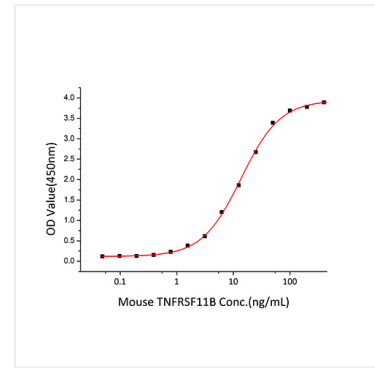
## Validation Data



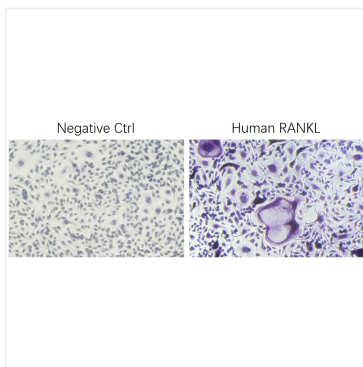
Recombinant Human TRANCE/RANKL/TNFSF11 was determined by SDS-PAGE with Coomassie Blue, showing a band at 35 kDa.



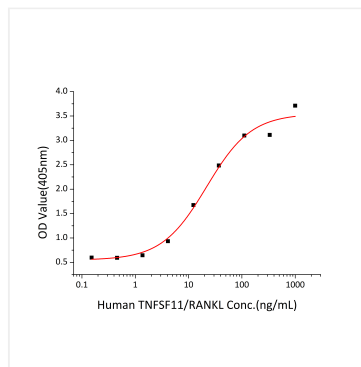
The purity of Human TRANCE/RANKL/TNFSF11 Protein (Cat.RP00183) was greater than 90% as determined by SEC-HPLC.



Immobilized Human TNFSF11 Protein at 2  $\mu\text{g/mL}$  (100  $\mu\text{L/well}$ ) can bind Mouse TNFRSF11B with a linear range of 0.049-13.74 ng/mL.



Measured by its ability to induce osteoclast differentiation of mouse bone marrow cells.



Measured by its ability to induce osteoclast differentiation of RAW 264.7 mouse monocyte/macrophage cells. The  $\text{ED}_{50}$  for this effect is 10.85-43.42 ng/mL, corresponding to a specific activity of  $2.30 \times 10^4 \sim 9.22 \times 10^4$  units/mg.