

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;RANKL;TNLG6B;TRANCE;hRANKL2;sOdf

Product Information

Source	Purification
HEK293 cells	≥ 95 % as determined by SDS-PAGE; ≥ 90 % as determined by HPLC.

Calculated MW	Observed MW
21.32 kDa	35 kDa

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.

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

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 2.30×10⁴~9.22×10⁴ units/mg.

Storage

Store at -20°C. Store the lyophilized protein at -20°C to -80 °C up to 1 year from the date of receipt.

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.

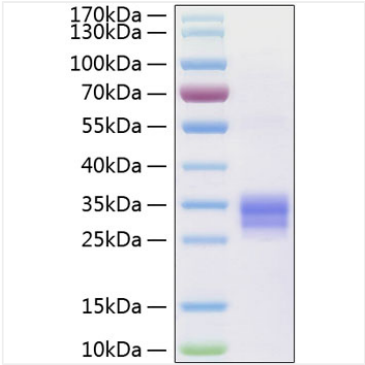
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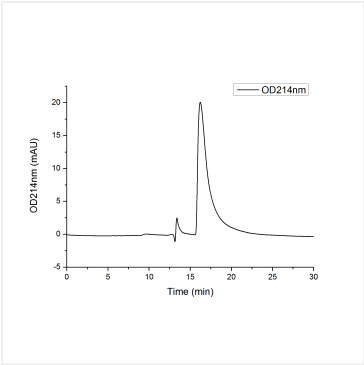
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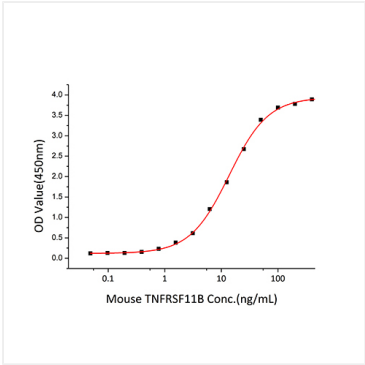
Validation Data



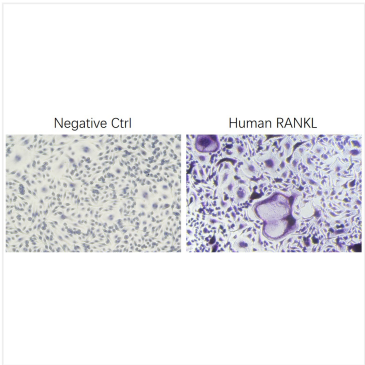
Recombinant Human TNFSF11/RANKL/CD254 Protein was determined by SDS-PAGE under reducing conditions with Coomassie Blue.



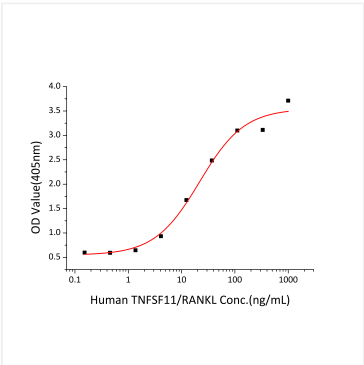
The purity of Human TRANCE/RANK L/TNFSF11 Protein (Cat.RP00183) was greater than 90% as determined by SEC-HPLC.



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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 ED₅₀ for this effect is 10.85-43.42 ng/mL, corresponding to a specific activity of 2.30×10⁴~9.22×10⁴ units/mg.