Human RANKL / OPGL / TNFSF11 / CD254 Protein (Fc Tag)

Catalog Number: 11682-H01H

Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

CD254; hRANKL2; ODF; OPGL; OPTB2; RANKL; sOdf; TRANCE

Protein Construction:

A DNA sequence encoding the human TNFSF11 isoform 2 (O14788-2) (Gly 63-Asp 244) was fused with the Fc region of human IgG1 at the N-terminus.

Source: Human

Expression Host: HEK293 Cells

QC Testing

Purity: > 86 % as determined by SDS-PAGE

Bio Activity:

1. Measured by its binding ability in a functional ELISA. Immobilized human TNFRSF11B-His (Cat: 10271-H08H) at 10 μg/ml (100 μl/well) can bind human Fc-TNFSF11 (Cat: 11682-H01H) with a linear ranger of 3.125-200 ng/mL. 2. The bioactivity of hRANKL was determined by measuring the ability of hRANKL to induce TRAP activity in Raw 264.7 cells. The ED_{50} for this effect is typically 7-35 ng/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 ℃

Predicted N terminal: Glu 20

Molecular Mass:

The recombinant human TNFSF11/Fc chimera is a disulfide-linked homodimeric protein. The reduced monomer consists of 443 amino acids and has a calculated molecular mass of 48.9 kDa. In SDS-PAGE under reducing conditions, the apparent molecular mass of rh TNFSF11/Fc monomer is approximately 50-55 kDa due to the glycosylation.

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:

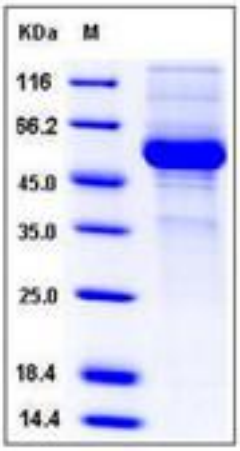
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

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.