Human Osteoprotegerin / TNFRSF11B Protein (His Tag)

Catalog Number: **10271-H08H**

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Biological Solution Specialist

General Information

Gene Name Synonym:

MGC29565; OCIF; OPG; PDB5; TR1; Ocif; Opg; TR1; TNFRSF11B

Protein Construction:

A DNA sequence encoding the human TNFRSF11B (NP_002537.3) (Met 1-Leu 401) was fused with a polyhistidine tag at the C-terminus.

Source: Human

Expression Host: Human Cells

QC Testing

Purity: > 97 % as determined by SDS-PAGE

Bio Activity:

1. Measured by its ability to inhibit TRAIL-mediated cytotoxicity using L-929 mouse fibroblast cells treated with TRAIL. The ED_{50} for this effect is typically 5-20 ng/mL in the presence of 20 ng/mL Recombinant Human TRAIL/TNFSF10 (Catalog # 10409-HNAE). 2. Measured by its binding ability in a functional ELISA. Immobilized human TNFRSF11B-His 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.

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 22

Molecular Mass:

The secreted recombinant human TNFRSF11B comprises 391 amino acids and has a predicted molecular mass of 45.3 kDa. As a result of glycosylation, rhTNFRSF11B migrates as an approximately 55 kDa bnd 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:

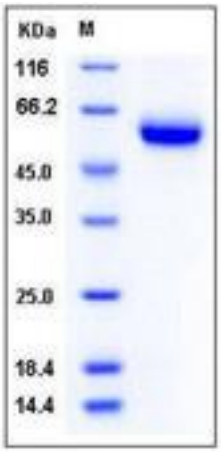
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Osteoprotegerin or TNFRSF11B is a member of the TNF-receptor superfamily. This protein is an osteoblast-secreted decoy receptor that functions as a negative regulator of bone resorption. This protein specifically binds to its ligand, osteoprotegerin ligand, both of which are key extracellular regulators of osteoclast development. Studies of the mouse counterpart also suggest that this protein and its ligand play a role in lymph-node organogenesis and vascular calcification. Alternatively spliced transcript variants of this gene have been reported, but their full length nature has not been determined. Osteoprotegerin/TNFRSF11B acts as decoy receptor for RANKL and thereby neutralizes its function in osteoclastogenesis. This protein may inhibit the activation of osteoclasts and promotes osteoclast apoptosis in vitro. Bone homeostasis seems to depend on the local RANKL/OPG ratio. Osteoprotegerin/TNFRSF11B also play a role in preventing arterial calcification, act as decoy receptor for TRAIL and protect against apoptosis. TRAIL binding blocks the inhibition of osteoclastogenesis.

References

1.Collin-Osdoby P. (2005) Regulation of vascular calcification by osteoclast regulatory factors RANKL and osteoprotegerin. Circ Res. 95 (11): 1046-57.
2.Boyce BF, *et al.* (2007) Biology of RANK, RANKL, and osteoprotegerin. Arthritis Res. Ther. 9 Suppl 1: S1.
3.Blázquez-Medela AM, *et al.* (2011) Osteoprotegerin and diabetes-associated pathologies. Curr Mol Med. 11 (5): 401-16.