

# Human Osteoprotegerin / TNFRSF11B Protein (His Tag)

Catalog Number: 10271-H08H



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

MGC29565; OCIF; OPG; PDB5; TR1

### 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:** HEK293 Cells

## QC Testing

**Purity:** > 97 % as determined by SDS-PAGE

### Bio Activity:

**Immobilized Osteoprotegerin Protein, Human, Recombinant (His Tag)(Cat:10271-H08H) at 2 µg/mL (100 µL/well) can bind RANKL Protein, Human, Recombinant (ECD, hFc Tag)(Cat:11682-H01H), the EC<sub>50</sub> is 13-64 ng/mL.**

### Endotoxin:

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

**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 band 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

### Stability & Storage:

Samples are stable for twelve months from date of receipt at -20°C to -80°C.

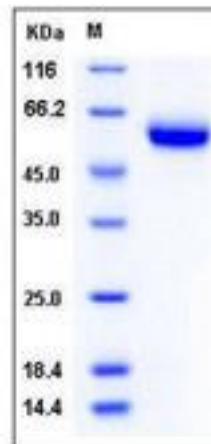
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

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.

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