# Recombinant Human Osteoprotegerin/TNFRSF11B Protein (His Tag)

**Catalog Number: PKSH033573**

**Note:** *Centrifuge before opening to ensure complete recovery of vial contents.*

## Description

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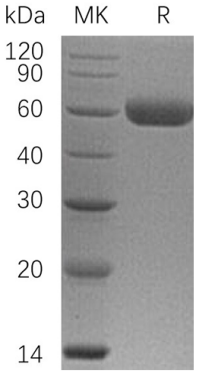
|---|---|
| **Species** | Human |
| **Source** | HEK293 Cells-derived Human Osteoprotegerin/TNFRSF11B protein Glu22-Leu401, with an C-terminal His |
| **Calculated MW** | 44.7 kDa |
| **Observed MW** | 57 kDa |
| **Accession** | O00300 |
| **Bio-activity** | Measured by its ability to inhibit TRAIL-mediated cytotoxicity using L-929 mouse fibroblast cells treated with TRAIL. The $ED_{50}$ for this effect is 10.6 ng/ml. |

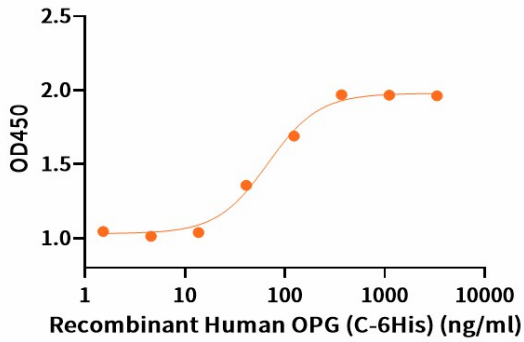
## Properties

| | |
|---|---|
| **Purity** | > 95 % as determined by reducing SDS-PAGE. |
| **Endotoxin** | < 1.0 EU per μg of the protein as determined by the LAL method. |
| **Storage** | Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80 °C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months. |
| **Shipping** | This product is provided as lyophilized powder which is shipped with ice packs. |
| **Formulation** | Lyophilized from a 0.2 μm filtered solution of 20mM PB, 150mM NaCl, pH 7.4. Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual. |
| **Reconstitution** | Please refer to the printed manual for detailed information. |

## Data




> 95 % as determined by reducing SDS-PAGE.

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## Background

TNFRSF11B is a secreted protein; containing 2 death domains and 4 TNFR-Cys repeats. TNFRSF11B is a decoy receptor for the receptor activator of nuclear factor kappa B ligand (RANKL). By binding RANKL; TNFRSF11B inhibits nuclear kappa B (NF-κB) which is a central and rapid acting transcription factor for immune-related genes; and a key regulator of inflammation; innate immunity; and cell survival and differentiation. TNFRSF11B levels are influenced by voltage-dependent calcium channelsCav1.2. TNFRSF11B can reduce the production of osteoclasts by inhibiting the differentiation of osteoclast precursors (osteoclasts are related to monocytes/macrophages and are derived from granulocyte/macrophage-forming colony units (CFU-GM)) into osteoclasts and also regulates the resorption of osteoclasts in vitroand in vivo. TNFRSF11B binding to RANKL on osteoblast/stromal cells; blocks the RANKL-RANK ligand interaction between osteoblast/stromal cells and osteoclast precursors. This has the effect of inhibiting the differentiation of the osteoclast precursor into a mature osteoclast.