# Recombinant Human Osteoprotegerin/TNFRSF11B Protein (His Tag)

### Catalog No. PKSH033573

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

Description	
Synonyms	Tumor necrosis factor receptor superfamily member 11B;Osteoclastogenesis inhibitory factor;Osteoprotegerin;TNFRSF11B;OCIF;OPG;PDB5;TR1
Species	Human
Expression Host	HEK293 Cells
Sequence	Glu22-Leu401
Accession	O00300
Calculated Molecular Weight	44.7 kDa
Observed molecular weight	57 kDa
Tag	C-His
Bioactivity	Not validated for activity
Properties	
Purity	>95 % as determined by reducing SDS-PAGE.
Endotoxin	< 1.0 EU per $\mu$ g 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.

## Background

TNFRSF11B is a secreted protein; containing 2 death domains and 4 TNFR-Cys repeats. TNFRSF11B is a decoy receptor

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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.

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