



# Recombinant Protein Technical Manual

## Recombinant Human Osteoprotegerin/TNFRSF11B Protein (His Tag)(Active)

RPES4898

### Product Data:

**Product SKU:** RPES4898

**Size:** 50µg

**Species:** Human

**Expression host:** HEK293 Cells

**Uniprot:** NP\_002537.3

### Protein Information:

**Molecular Mass:** 45.3 kDa

**AP Molecular Mass:** 55 kDa

**Tag:** C-His

**Bio-activity:** 1. Measured by its ability to inhibit TRAIL-mediated cytotoxicity using L-929 mouse fibroblast cells treated with TRAIL. The ED50 for this effect is typically 5-20 ng/mL in the presence of 20 ng/mL Recombinant Human TRAIL/TNFSF10.2. 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 with a linear rangel of 3.125-200 ng/mL.

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

**Endotoxin:** < 1.0 EU per µg as determined by the LAL method.

**Storage:** 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 sterile PBS, pH 7.4

**Reconstitution:** Please refer to the printed manual for detailed information.

**Application:** Functional ELISA

**Synonyms:** Tumor necrosis factor receptor superfamily member 11B; Osteoclastogenesis inhibitory factor; Osteoprotegerin; TNFRSF11B; OCIF; OPG;PDB5;TR1

## Immunogen Information:

**Sequence:** Met 1-Leu 401

## Background:

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.