

## OPG Protein, Mouse, Recombinant (His)

### General Information

Synonyms:	Opg;Ocif;Tnfrsf11b;Osteoclastogenesis inhibitory factor;Osteoprotegerin;Tumor necrosis factor receptor superfamily member 11B
Protein Construction:	Glu22-Leu401
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	O08712
Molecular Weight:	50-65 KDa (reducing condition)
AA Sequence:	Glu22-Leu401

### QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	Greater than 95% as determined by reducing SDS-PAGE. (QC verified)
Endotoxin:	< 0.1 ng/μg (1 EU/μg) as determined by LAL test.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4.

### Preparation and Storage

#### Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 μg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

#### Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Osteoprotegerin (OPG, Tnfrsf11b) is a secreted protein that regulates bone density. OPG is widely expressed and constitutively released as a homodimer by mesenchymal stem cells, fibroblasts and endothelial cells. Regulation of its expression by estrogen, parathyroid hormone and cytokines is complex and changes with age. OPG acts as decoy receptor for TNFSF11/RANKL and thereby neutralizes its function in osteoclastogenesis. TRAIL decreases the release of OPG from cells that express it, while OPG inhibits TRAIL-induced apoptosis. Expression of RANK L on the

cell surface, and thus its ability to stimulate osteoclastogenesis, is regulated by OPG by intracellular and extracellular mechanisms. Bone homeostasis seems to depend on the local ratio between TNFSF11 and TNFRSF11B. It may also play a role in preventing arterial calcification.

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