

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Osteoprotegerin/TNFRSF11B in ELISAs and Western blots. In sandwich immunoassays, less than 20% cross-reactivity with recombinant mouse Osteoprotegerin is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human Osteoprotegerin/TNFRSF11B Glu22-Leu401 Accession # AAB53709
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

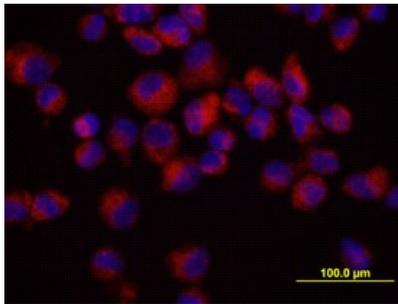
## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
<b>Western Blot</b>	0.1 µg/mL	Recombinant Human Osteoprotegerin/TNFRSF11B (Catalog # 185-OS)
<b>Immunocytochemistry</b>	5-15 µg/mL	See Below
<b>Immunohistochemistry</b>	5-15 µg/mL	See Below
<b>Human Osteoprotegerin/TNFRSF11B Sandwich Immunoassay</b>		<b>Reagent</b>
<b>ELISA Capture</b>	2-8 µg/mL	Human Osteoprotegerin/TNFRSF11B Antibody (Catalog # MAB8051)
<b>ELISA Detection</b>	0.1-0.4 µg/mL	Human Osteoprotegerin/TNFRSF11B Biotinylated Antibody (Catalog # BAF805)
<b>Standard</b>		Recombinant Human Osteoprotegerin/TNFRSF11B (Catalog # 185-OS)

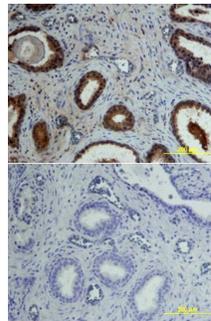
## DATA

### Immunocytochemistry



**Osteoprotegerin/TNFRSF11B in MG-63 Human Cell Line.**  
Osteoprotegerin/TNFRSF11B was detected in immersion fixed MG-63 human osteosarcoma cell line using 10 µg/mL Goat Anti-Human Osteoprotegerin/TNFRSF11B Biotinylated Antigen Affinity-purified Polyclonal Antibody (Catalog # BAF805) for 3 hours at room temperature. Cells were stained with the NorthernLights™ 557-conjugated Streptavidin (red; Catalog # NL999) and counterstained with DAPI (blue). View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

### Immunohistochemistry



**Osteoprotegerin/TNFRSF11B in Human Prostate.**  
Osteoprotegerin/TNFRSF11B was detected in immersion fixed paraffin-embedded sections of human prostate array using Goat Anti-Human Osteoprotegerin/TNFRSF11B Biotinylated Antigen Affinity-purified Polyclonal Antibody (Catalog # BAF805) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Lower panel shows a lack of labeling if primary antibodies are omitted and tissue is stained only with secondary antibody followed by incubation with detection reagents. View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**BACKGROUND**

Osteoprotegerin (OPG)/Osteoclastogenesis Inhibitory Factor (OCIF) is member of the tumor necrosis factor receptor superfamily that lacks any apparent cell-association motifs and exists as a soluble secreted protein. In the new TNF superfamily nomenclature, OPG is referred to as TNFRSF11B. OPG was originally isolated by sequence homology as a TNF receptor family protein during a fetal rat intestine cDNA-sequencing project and subsequently shown to be involved in the regulation of bone density. OCIF was initially purified from the conditioned medium of human embryonic fibroblasts based on its ability to inhibit osteoclast development. Comparison of the amino-acid sequences of human OPG and OCIF proteins revealed their identity. Human OPG/OCIF cDNA encodes a 401 amino acid (aa) residues precursor protein with a 21 aa residue putative signal peptide that is removed to generate the mature soluble protein. The amino-terminal half of OPG contains four cysteine-rich repeats characteristic of TNF receptor family members. The 204 residues of the carboxy-terminal OPG/OCIF was found to contain two death domain homologous regions in tandem. Human and mouse OPG share approximately 84% and 94% amino acid sequence identity, respectively, with the rat OPG. Natural OPG/OCIF has been found to exist predominantly as disulfide-linked dimers. Two TNF superfamily ligands, including the membrane proteins OPG ligand/TRANCE (tumor necrosis factor-related activation-induced cytokine)/ODF (osteoclast differentiation factor)/RANKL (receptor activator of NF $\kappa$ B ligand) and TRAIL (TNF-related apoptosis-inducing ligand)/APO-2 ligand, have been shown to be the cellular ligands for OPG/OCIF. Each of these ligands has been shown to interact with additional TNF receptor family members, including RANK (with TRANCE) and TRAIL receptors 1-4. (with TRAIL). The roles of these receptor-ligands in osteoclastogenesis, apoptosis and in the immune system remains to be elucidated.