## Overview

<table>
<thead>
<tr>
<th>Product name</th>
<th>Anti-Osteoprotegerin antibody</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Rabbit polyclonal to Osteoprotegerin</td>
</tr>
<tr>
<td>Host species</td>
<td>Rabbit</td>
</tr>
<tr>
<td>Tested applications</td>
<td><strong>Suitable for:</strong> IHC-P, ICC, WB, ELISA</td>
</tr>
<tr>
<td>Species reactivity</td>
<td><strong>Reacts with:</strong> Mouse, Human</td>
</tr>
<tr>
<td>Immunogen</td>
<td>Highly pure (&gt;98%) recombinant hOPG (human Osteoprotegerin)</td>
</tr>
</tbody>
</table>

## Properties

<table>
<thead>
<tr>
<th>Form</th>
<th>Lyophilised: Reconstitute with 200µl of sterile water. Please note that if you receive this product in liquid form it has already been reconstituted as described and no further reconstitution is necessary.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage buffer</td>
<td>PBS, pH 7.4, no preservative, sterile filtered</td>
</tr>
<tr>
<td>Purity</td>
<td>Immunogen affinity purified</td>
</tr>
<tr>
<td>Clonality</td>
<td>Polyclonal</td>
</tr>
<tr>
<td>Isotype</td>
<td>unknown</td>
</tr>
<tr>
<td>Light chain type</td>
<td>unknown</td>
</tr>
</tbody>
</table>

## Applications

Our [Abpromise guarantee](#) covers the use of **ab9986** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>IHC-P</td>
<td>★★★☆☆☆</td>
<td>Use a concentration of 0.5 µg/ml. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.</td>
</tr>
<tr>
<td>ICC</td>
<td></td>
<td>Use at an assay dependent dilution. <a href="#">PubMed: 20513175</a></td>
</tr>
<tr>
<td>Application</td>
<td>Abreviews</td>
<td>Notes</td>
</tr>
<tr>
<td>-------------</td>
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</tr>
<tr>
<td>WB</td>
<td>Use a concentration of 0.1 - 1 µg/ml. Detects a band of approximately 56 kDa (predicted molecular weight: 46 kDa). Can be blocked with Reombinant Human Osteoprotegerin protein (ab110188).</td>
<td></td>
</tr>
<tr>
<td>ELISA</td>
<td>Use a concentration of 0.5 µg/ml. Allows the detection of 0.2-0.4 ng/well or recombinant hOPG.</td>
<td></td>
</tr>
</tbody>
</table>

**Target**

**Function**
Acts as decoy receptor for RANKL and thereby neutralizes its function in osteoclastogenesis. Inhibits the activation of osteoclasts and promotes osteoclast apoptosis in vitro. Bone homeostasis seems to depend on the local RANKL/OPG ratio. May also play a role in preventing arterial calcification. May act as decoy receptor for TRAIL and protect against apoptosis. TRAIL binding blocks the inhibition of osteoclastogenesis.

**Tissue specificity**
Highly expressed in adult lung, heart, kidney, liver, spleen, thymus, prostate, ovary, small intestine, thyroid, lymph node, trachea, adrenal gland, testis, and bone marrow. Detected at very low levels in brain, placenta and skeletal muscle. Highly expressed in fetal kidney, liver and lung.

**Involvement in disease**
Defects in TNFRSF11B are the cause of juvenile Paget disease (JPD) [MIM:239000]; also known as hyperostosis corticalis deformans juvenilis or hereditary hyperphosphatasia or chronic congenital idiopathic hyperphosphatasia. JPD is a rare autosomal recessive osteopathy that presents in infancy or early childhood. The disorder is characterized by rapidly remodeling woven bone, osteopenia, debilitating fractures, and deformities due to a markedly accelerated rate of bone remodeling throughout the skeleton. Approximately 40 cases of JPD have been reported worldwide. Unless it is treated with drugs that block osteoclast-mediated skeletal resorption, the disease can be fatal.

**Sequence similarities**
Contains 2 death domains.
Contains 4 TNFR-Cys repeats.

**Post-translational modifications**
N-glycosylated. Contains sialic acid residues.
The N-terminus is blocked.

**Cellular localization**
Secreted.
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Osteoprotegerin antibody (ab9986)

This image is courtesy of an anonymous Abreview

Western blot - Anti-Osteoprotegerin antibody (ab9986)

ab9986 staining Osteoprotegerin in human skin tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with PBS + 1% BSA + 5% NGS for 30 minutes at 20°C. Samples were incubated with primary antibody (1/20) for 9 hours at 4°C. ab7090, a HRP-conjugated goat anti-rabbit IgG polyclonal (1/300) was used as the secondary antibody.

### All lanes
Anti-Osteoprotegerin antibody (ab9986) at 1 µg/ml

#### Lane 1
U2OS (Human osteosarcoma cell line) Whole Cell Lysate

#### Lane 2
HEK293 (Human embryonic kidney cell line) Whole Cell Lysate

Lysates/proteins at 10 µg per lane.

### Secondary
All lanes: Goat polyclonal to Rabbit IgG - H&L - Pre-Adsorbed (HRP) at 1/3000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

**Predicted band size:** 46 kDa

**Observed band size:** 56 kDa

*why is the actual band size different from the predicted?*

**Additional bands at:** 32 kDa. We are unsure as to the identity of these extra bands.

**Exposure time:** 150 seconds

Osteoprotegerin contains a number of potential glycosylation sites (SwissProt) which may explain its migration at a higher molecular weight than predicted.
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Osteoprotegerin antibody (ab9986)

ab9986 at 0.5 μg/ml staining human breast invasive ductal carcinoma by IHC-P. The antibody was incubated overnight incubation at 4°C. An HRP-labeled polymer detection system was used with a DAB chromogen. Heat induced antigen retrieval with a pH 6.0 Sodium Citrate buffer is recommended.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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