

## DESCRIPTION

<b>Species Reactivity</b>	Mouse
<b>Specificity</b>	Detects mouse Osteoactivin/GPNMB in ELISAs and Western blots. In sandwich immunoassays, less than 0.2% cross-reactivity with recombinant human (rh) Osteoactivin, rhSyndecan-4, and recombinant mouse Syndecan-4 is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant mouse Osteoactivin/GPNMB Lys23-Asn502 Accession # NP_444340
<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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	0.1 µg/mL	Recombinant Mouse Osteoactivin/GPNMB Fc Chimera (Catalog # 2330-AC)
<b>Mouse Osteoactivin/GPNMB Sandwich Immunoassay</b>		<b>Reagent</b>
<b>ELISA Capture</b>	0.2-0.8 µg/mL	Mouse Osteoactivin/GPNMB Antibody (Catalog # AF2330)
<b>ELISA Detection</b>	0.1-0.4 µg/mL	Mouse Osteoactivin/GPNMB Biotinylated Antibody (Catalog # BAF2330)
<b>Standard</b>		Recombinant Mouse Osteoactivin/GPNMB Fc Chimera (Catalog # 2330-AC)

## 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>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <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

Osteoactivin (also named GPNMB and DC-HIL) is a 125 kDa, intracellular glycoprotein that is associated with cell endosomal/lysosomal compartments (1, 2). Mouse osteoactivin is synthesized as a type I, transmembrane, 574 amino acid (aa) precursor that contains a 22 aa signal sequence, a 478 aa luminal/extracellular domain, a 23 aa transmembrane segment and a 51 aa cytoplasmic tail. The luminal region contains an N-terminal heparin-binding motif, multiple glycosylation sites, an RGD motif and a 130 aa PKD domain. The intracellular tail also has an RGD motif, plus an ITAM (Y-x-x-I) and lysosomal targeting (L-L) motif. The extracellular/luminal region is 89% and 74% aa identical to the equivalent regions in rat and human, respectively. Cells known to express osteoactivin include osteoblasts, dendritic cells, and melanocytes, plus fetal chondrocytes and stratum basale keratinocytes (2, 3). Osteoactivin is reported to bind to heparan sulfate-proteoglycan, possibly on the surface of fibroblasts and endothelial cells (2). It may also interact with integrins.

### References:

1. Bachner, D. *et al.* (2002) *Gene Exp. Patterns* **1**:159.
2. Shikano, S. *et al.* (2001) *J. Biol. Chem.* **276**:8125.
3. Owen, T.A. *et al.* (2003) *Crit. Rev. Eukaryot. Gene Expr.* **13**:205.