Mouse Osteoactivin/GPNMB Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF2330

DESCRIPTION

Species Reactivity	Mouse
Specificity	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.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Osteoactivin/GPNMB Lys23-Asn502 Accession # Q8BVA0
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

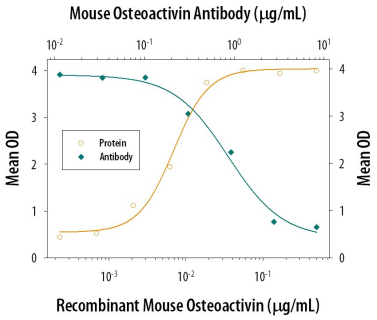
APPLICATIONS

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
Western Blot	0.1 µg/mL	Recombinant Mouse Osteoactivin/GPNMB Fc Chimera (Catalog # 2330-AC)
Mouse Osteoactivin/GPNMB Sandwich Immunoassay		**Reagent**
ELISA Capture	0.2-0.8 µg/mL	Mouse Osteoactivin/GPNMB Antibody (Catalog # AF2330)
ELISA Detection	0.1-0.4 µg/mL	Mouse Osteoactivin/GPNMB Biotinylated Antibody (Catalog # BAF2330)
Standard		Recombinant Mouse Osteoactivin/GPNMB Fc Chimera (Catalog # 2330-AC)
Neutralization	Measured by its ability to neutralize Osteoactivin/GPNMB-mediated adhesion of the SVEC4-10 mouse vascular endothelial cell line. The Neutralization Dose (ND_{50}) is typically 0.2-0.8 µg/mL in the presence of 0.25 µg/mL Recombinant Mouse Osteoactivin/GPNMB Fc Chimera.	

DATA

Neutralization



Cell Adhesion Mediated by Osteoactivin/GPNMB and Neutralization by Mouse Osteoactivin/GPNMB Antibody. Recombinant Mouse Osteoactivin/GPNMB Fc Chimera (Catalog # 2330-AC), immobilized onto a microplate previously coated with Goat Anti-Mouse IgG Fc (Catalog # G-202-C), supports the adhesion of the SVEC4-10 mouse vascular endothelial cell line in a dose-dependent manner (orange line), as measured by endogenous cellular lysosomal acid phosphatase activity. Adhesion elicited by Recombinant Mouse Osteoactivin/GPNMB Fc Chimera (0.25 µg/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Mouse Osteoactivin/GPNMB Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2330). The ND_{50} is typically 0.2-0.8 µg/mL.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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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.

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