Mouse Periostin/OSF-2 Isoform 2 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF2955

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Periostin/OSF-2 in direct ELISAs and Western blots. In direct ELISAs, less than 30% cross-reactivity with recombinant rat Periostin/OSF-2 and recombinant human Periostin/OSF-2 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*S. frugiperda* insect ovarian cell line *Sf* 21-derived recombinant mouse Periostin/OSF-2 Asn24-Gln811 Accession # Q62009
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 either lyophilized or as a 0.2 µm filtered solution in PBS.

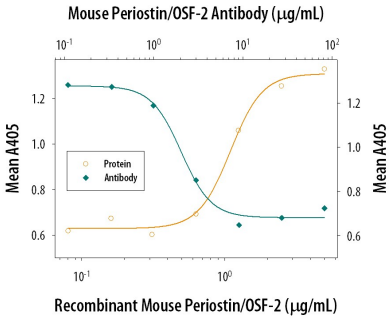
APPLICATIONS

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 Periostin/OSF-2 (Catalog # 2955-F2)
Immunocytochemistry	5-15 µg/mL	See Below
Neutralization	Measured by its ability to neutralize Periostin/OSF-2-mediated adhesion of the ATDC5 mouse chondrogenic cell line. The Neutralization Dose (ND_{50}) is typically 1-5 µg/mL in the presence of 5 µg/mL Recombinant Mouse Periostin/OSF-2.	

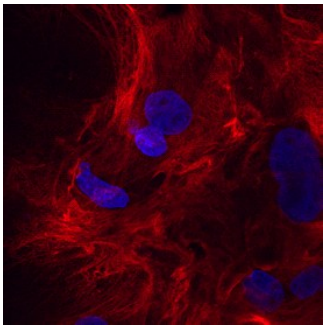
DATA

Neutralization



Cell Adhesion Mediated by Periostin/OSF-2 and Neutralization by Mouse Periostin/OSF-2 Antibody. Recombinant Mouse Periostin/OSF-2 (Catalog # 2955-F2), immobilized onto a microplate, supports the adhesion of the ATDC5 mouse chondrogenic cell line in a dose-dependent manner (orange line). Adhesion elicited by Recombinant Mouse Periostin/OSF-2 (5 µg/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Mouse Periostin/OSF-2 Isoform 2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2955). The ND_{50} is typically 1-5 µg/mL.

Immunocytochemistry



Periostin/OSF-2 in Rat Mesenchymal Stem Cells. Periostin/OSF-2 was detected in immersion fixed rat mesenchymal stem cells differentiated to osteoblasts using Goat Anti-Mouse Periostin/OSF-2 Isoform 2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2955) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # NL001) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

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

Mouse Periostin, also known as OSF-2 (osteoblast-specific factor 2) is a 170 kDa, secreted, homodimeric protein that belongs to the periostin family of the FAS1 superfamily of molecules (1-4). It is a TGF-β inducible molecule that serves as both an adhesion molecule and tumor suppressor (2, 5, 6, 7). It is synthesized as a 838 amino acid (aa) precursor that contains a 23 aa signal sequence and an 815 aa mature region (2, 8). It is unknown if the molecule has any significant glycosylation (2). Based on human OSF-2, the homodimer is not disulfide-linked (3). The molecule consists of two distinct regions. The N-terminus contains an 55 aa EMI domain, while the C-terminus contains four, 130 aa fasciculin type 1 (or FAS1) domains. The EMI domain is cysteine-rich and shows a highly basic α-helix (9). Each FAS1 repeat exhibits a novel 7-stranded β-wedge with a multiple α-helix fold (1, 8). Multiple alternate splice forms are known to exist C-terminal (aa 672-812) to the four-fold FAS1 repeats. These mature molecules are 760, 761, 787 and 788 aa in length and show block deletions of 54 aa, 27 aa and/or 28 aa (10). The significance of the alternate splice forms is not clear. They do, however, appear to be temporally regulated (6). OSF-2 is known to bind to $\alpha_v \beta_3$ and $\alpha_v \beta_5$ integrins (3). It is synthesized by smooth muscle cells, fibroblasts and osteoblasts (2, 5, 7). Mature mouse OSF-2 shares 98%, 92% and 91% aa identity with rat, canine and human OSF-2, respectively.

References:

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