Human Periostin/OSF-2 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF3548

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Periostin/OSF-2 in direct ELISAs and Western blots. In direct ELISAs, less than 40% cross-reactivity with recombinant mouse Periostin and recombinant rat Periostin is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Periostin Asn22-Gln836 Accession # Q15063
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.

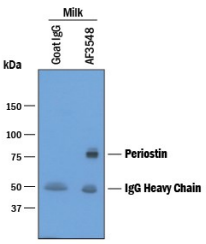
APPLICATIONS

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	1 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below
Immunoprecipitation	25 µg/mL	See Below

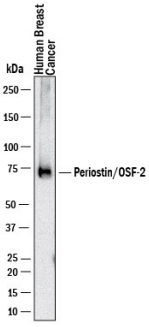
DATA

Immunoprecipitation



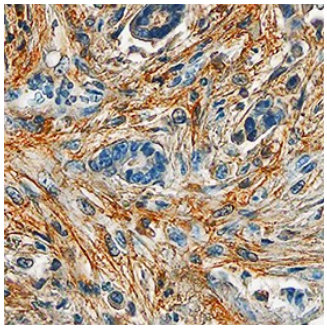
Immunoprecipitation of Human Periostin/OSF-2. Human Periostin/OSF-2 was immunoprecipitated from human milk samples diluted in 1X Sample Diluent Concentrate 2 (Catalog # DYC002) and incubated with 3 µg Goat Anti-Human Periostin/OSF-2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3548) or Normal Goat IgG Control (Catalog # AB-108-C) plus 30 µL Protein G beads overnight. Immunoprecipitated Periostin/OSF-2 was detected by Western blot under reducing conditions using 1 µg/mL Goat Anti-Human Periostin/OSF-2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3548). View our recommended buffer recipes for immunoprecipitation.

Western Blot



Detection of Human Periostin/OSF-2 by Western Blot. Western blot shows lysates of Human Breast Cancer. PVDF membrane was probed with 1 µg/mL of Goat Anti-Human Periostin/OSF-2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3548) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for Periostin/OSF-2 at approximately ~75kDa kDa (as indicated). This experiment was conducted under reducing conditions and using Western Blot Buffer Group 1.

Immunohistochemistry



Periostin/OSF-2 in Human Breast. Periostin/OSF-2 was detected in immersion fixed paraffin-embedded sections of human breast using Goat Anti-Human Periostin/OSF-2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3548) at 10 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). Specific staining was localized to stromal cells. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

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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.
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.

BACKGROUND

Human OSF-2 (Osteoblast-Specific Factor 2), also known as Periostin, is a 170 kDa secreted homodimeric protein that belongs to the periostin family of the FAS1 superfamily of molecules. It is a TGF-β inducible molecule that serves as both an adhesion molecule and tumor suppressor. It is synthesized as an 836 amino acid (aa) precursor that contains a 21 aa signal sequence and an 815 aa mature region. It is unknown if the molecule has any significant glycosylation. The human homodimer is not disulfide-linked. 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 (FAS1) domains. The EMI domain is cysteine-rich and shows a highly basic α-helix. Each FAS1 repeat exhibits a novel seven-stranded β-wedge with a multiple α-helical fold. Three alternate splice forms are known that are C-terminal to the fourfold FAS1 repeats. These mature molecules are 758 and 761 aa in length. The first shows a one aa substitution for aa 649-706 of the mature molecule. The second shows a one aa substitution for aa 649-676, and a deletion of 27 aa between aa 784-810 of the mature molecule. The significance of the alternate splice forms is not clear. OSF-2 is known to bind to $\alpha_V\beta_3$ and $\alpha_V\beta_5$ integrins. It is synthesized by smooth muscle cells, fibroblasts, osteoblasts, and multiple carcinoma cell types. OSF-2 induces expression of VEGFR2/KDR on endothelial cells (EC) by binding to EC $\alpha_V\beta_3$. It also promotes cell transformation to a tumorigenic phenotype, accompanied by MMP-9 and fibronectin production and cell migration. Mature human OSF-2 is 91%, 96% and 91% aa identical to rat, dog, and mouse OSF-2, respectively.

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