

DESCRIPTION

Source Human embryonic kidney cell, HEK293-derived human Periostin/OSF-2 protein
Asn22-Gln808 (C60A) with a C-terminal 6-His tag
Accession # Q15063.1

N-terminal Sequence Analysis Asn22

Predicted Molecular Mass 89 kDa

SPECIFICATIONS

SDS-PAGE 68-90 kDa, under reducing conditions.

Activity Measured by its ability to induce adhesion of ATDC5 mouse chondrogenic cells.
The ED₅₀ for this effect is 0.500-6.00 µg/mL.

Endotoxin Level <0.10 EU per 1 µg of the protein by the LAL method.

Purity >95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

Formulation Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 500 µg/mL in PBS.

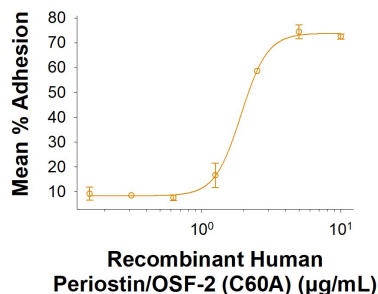
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

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.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

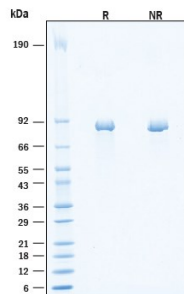
DATA

Bioactivity



Recombinant Human Periostin/OSF-2 (C60A) His-tag Protein Bioactivity. Recombinant Human Periostin/OSF-2 (C60A) His-tag Protein (Catalog # 11486-F2) supports the adhesion of ATDC5 mouse chondrogenic cells. The ED₅₀ for this effect is 0.500-6.00 µg/mL.

SDS-PAGE



Recombinant Human Periostin/OSF-2 (C60A) His-tag Protein SDS-PAGE. 2 µg/lane of Recombinant Human Periostin/OSF-2 (C60A) His-tag Protein (Catalog # 11486-F2) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 68-90 kDa, under reducing conditions.

BACKGROUND

Periostin, also known as OSF-2, is a secreted matricellular protein with functions in extracellular matrix formation, cell migration, and inflammation (1). It is secreted as a 90 kDa monomer that can aggregate into >170 kDa higher-order multimers (2). Periostin contains an N-terminal EMI domain followed by four tandem FAS1 domains (3). Mature human Periostin shares 91% amino acid sequence identity with mouse and rat Periostin. Alternative splicing generates additional isoforms with various deletions in the C-terminal region following the FAS domains. Periostin is expressed by mesenchymal cells such as vascular smooth muscle cells, fibroblasts, osteoblasts, and odontoblasts in developing teeth (4-7). Periostin binds to Integrins alpha v beta 3 and alpha v beta 5 (2, 9), leading to enhanced cell adhesion and cell migration (2, 5, 6). It enhances Fibronectin and Collagen I production and promotes collagen fibrillogenesis (10, 11). Periostin is also up-regulated in many carcinomas (2, 8) and induces epithelial-mesenchymal transition, tumor growth, invasion, and metastasis (9). Further, Periostin induces the expression of VEGF R2 on endothelial cells and VEGF-C in tumor cells, and it can induce tumor lymphangiogenesis (8, 12). Periostin plays an important role in heart valve development and tissue healing after myocardial infarction (5, 13, 14). In asthma, it is up-regulated in bronchial epithelium and plays both destructive and protective roles by inducing eosinophil infiltration and inhibiting goblet cell metaplasia and mucus production, respectively (15, 16).

References:

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