

# Osteoblast Specific Factor 2 Human, Rabbit Polyclonal Antibody

## Product Data Sheet

**Source of Antigen:** *E.coli*

**Host:** Rabbit

**Cat. No.:**

RD181045050

(0.05 mg)

**Other names:** Periostin, PN, OSF-2, POSTN, Fasciclin-I like

## Research topic

Bone and cartilage metabolism, Cardiovascular disease, Cytokines and chemokines and related molecules, Oncology

## Preparation

The antibody was raised in rabbits by immunization with the recombinant Human OSF-2.

## Amino Acid Sequence

The immunization antigen (75 kDa) is a protein containing 648 AA of recombinant Human OSF-2 and 23 AA, N-Terminal HisTag and Xa - cleavage site (highlighted). The antigen contains amino acid residues 22 to 669 of the human OSF-2 precursor. The antigen includes all four fasciclin domains of OSF-2.

**MGHHHHHHHH HSSSGHIEGR HMRNNHYDKI LAHSRIRGRD QGPNVCALQQ ILGTKKKYFS TCKNWKYSI CGQKTTVLYE**  
 CCPGYMRMEG MKGCPAVLPI DHVYGTLGIV GATTQRYSD ASKLREEIEG KGSFTYFAPS NEAWDNLSD IRRGLESNVN  
 VELLNALHSH MINKRMLTKD LKNGMIIPSM YNNLGLFINH YPNGVTVNC ARIIHGNQIA TNGVVHVIDR VLTQIGTSIQ  
 DFIEAEDDLS SFRAAAITSD ILEALGRDGH FTLFAPTNEA FEKLPRGVLE RFMGDKVASE ALMKYHILNT LQCSSESIMGG  
 AVFETLEGNT IEIGCDGDSI TVNGIKMVNK KDIVTNGVI HLIDQVLIPD SAKQVIELAG KQQTTFSDLV AQLGLASALR  
 PDGEYTLAP VNNAFSDDL SMVQRLLKLI LQNHILKVKV GLNELYNGQI LETIGGKQLR VFVYRTAVCI ENSCMEKGSK  
 QGRNGAIHIF REI I KPAEKS LHEK LKQDKR FSTFLSLEA ADLKELLTQP GDWTLFVPTN DAFKGMTSEE KEILIRDKNA  
 LQNIILYHLT PGVFIGKGF E PGVTNLIKTT QGSKIFLKEV NDTLLVNELK SKESDIMTTN GVIHVVDKLL YPADTPVGND  
 QLEILNKLI KYIQIKFVRG STFKEIPVTV Y

## Species Reactivity

Human, Rat, Chicken, Mouse

Not yet tested in other species.

## Purification Method

Immunoaffinity chromatography on a column with immobilized recombinant Human OSF-2.

## Antibody Content

0.05 mg (determined by BCA method, BSA was used as a standard)

## Formulation

The antibody is lyophilized in 0.05 M phosphate buffer, 0.1 M NaCl, pH 7.2. **AZIDE FREE.**

## Reconstitution

Add 0.1 ml of deionized water and let the lyophilized pellet dissolve completely. Slight turbidity may occur after reconstitution, which does not affect activity of the antibody. In this case clarify the solution by centrifugation.

## Shipping

At ambient temperature. Upon receipt, store the product at the temperature recommended below.

## Storage/Stability

The lyophilized antibody remains stable and fully active until the expiry date when stored at -20°C. Aliquot the product after reconstitution to avoid repeated freezing/thawing cycles and store frozen at -80°C. Reconstituted antibody can be stored at 4°C for a limited period of time; it does not show decline in activity after one week at 4°C.

## Expiration

See vial label.

## Lot Number

See vial label.

## Quality Control Test

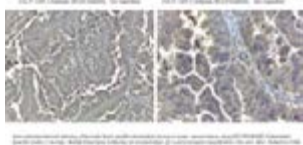
Indirect ELISA - to determine titer of the antibody

SDS PAGE - to determine purity of the antibody

## Applications

Immunohistochemistry, Western blotting

## Antibodies application



## Introduction to the Molecule

Periostin is a disulfide linked 90 kDa, 811 amino acid protein originally isolated as an osteoblast-specific factor that functions as a cell adhesion molecule for preosteoblasts and is thought to be involved in osteoblast recruitment, attachment and spreading. Additionally, periostin expression has previously been shown to be significantly increased by both transforming growth factor beta-1 (TGFbeta1) and bone morphogenetic protein (BMP-2).

OSF-2 has a typical signal sequence, followed by a cysteine-rich domain, a fourfold repeated domain and a C-terminal domain. The fourfold repeated domain of OSF-2 shows homology with the insect protein fasciclin

Periostin mRNA is expressed in the developing mouse embryonic and fetal heart, and that it is localized to the endocardial cushions that ultimately divide the primitive heart tube into a four-chambered heart.

## References to this Product

- Castronovo V, Waltregny D, Kischel P, Roesli C, Elia G, Rybak JN, Neri D . *A chemical proteomics approach for the identification of accessible antigens expressed in human kidney cancer.* [Mol Cell Proteomics](#) . Nov;5(11):2083-91
- Li P, Oparil S, Novak L, Cao X, Shi W, Lucas J, Chen YF . *ANP signaling inhibits TGF-beta-induced Smad2 and Smad3 nuclear translocation and extracellular matrix expression in rat pulmonary arterial smooth muscle cells.* [J Appl Physiol](#) . Jan;102(1):390-8 (2007)
- Grigoriadis A, Mackay A, Reis-Filho JS, Steele D, Iseli C, Stevenson BJ, Jongeneel CV, Valgeirsson H, Fenwick K, Irvani M, Leao M, Simpson AJ, Strausberg RL, Jat PS, Ashworth A, Neville AM, O'hare MJ . *Establishment of the epithelial-specific transcriptome of normal and malignant human breast cells based on MPSS and array expression data.* [Breast Cancer Res](#) . Oct 2;8(5):R56 (2006)
- Li JS, Sun GW, Wei XY, Tang WH. *Expression of periostin and its clinicopathological relevance in gastric cancer.* *World J Gastroenterol.* 2007 Oct 21;13 (39):5261-6
- Utispan K, Thuwajit P, Abiko Y, Charnkaew K, Paupairoj A, Chau-in S, Thuwajit C. *Gene expression profiling of cholangiocarcinoma-derived fibroblast reveals alterations related to tumor progression and indicates periostin as a poor prognostic marker.* *Mol Cancer.* 2010;9:13
- Woodruff PG, Boushey HA, Dolganov GM, Barker CS, Yang YH, Donnelly S, Ellwanger A, Sidhu SS, Dao-Pick TP, Pantoja C, Erle DJ, Yamamoto KR, Fahy JV. *Genome-wide profiling identifies epithelial cell genes associated with asthma and with treatment response to corticosteroids.* *Proc Natl Acad Sci U S A.* 2007 Oct 2;104 (40):15858-63
- Blumer MJ, Schwarzer C, Perez MT, Konakci KZ, Fritsch H . *Identification and location of bone-forming cells within cartilage canals on their course into the secondary ossification centre.* [J Anat](#) . Jun;208(6):695-707 (2006)
- Hosoya A, Nakamura H, Ninomiya T, Yoshida K, Yoshida N, Nakaya H, Wakitani S, Yamada H, Kasahara E, Ozawa H . *Immunohistochemical localization of alpha-Smooth muscle actin during rat molar tooth development.* [J Histochem Cytochem](#) . Dec;54(12):1371-8 (2006)
- Gao BB, Stuart L, Feener EP. *Label-free quantitative analysis of one-dimensional PAGE LC/MS/MS proteome: application on angiotensin II-stimulated smooth muscle cells secretome.* *Mol Cell Proteomics.* 2008 Dec;7 (12):2399-409
- Soltermann A, Ossola R, Kilgus-Hawelski S, von Eckardstein A, Suter T, Aebersold R, Moch H. *N-glycoprotein profiling of lung adenocarcinoma pleural effusions by shotgun proteomics.* *Cancer.* 2008 Apr 25;114 (2):124-33
- Kashyap MK, Marimuthu A, Peri S, Kumar GSS, Jacob HKC, Prasad TSK, Mahmood R, Kumar KVV, Kumar MV, Meltzer SJ, Montgomery EA, Kumar RV, Pandey A. *Overexpression of periostin and lumican in esophageal squamous cell carcinoma.* *Cancers.* 2010, 2, 133-142;
- Hakuno D, Kimura N, Yoshioka M, Mukai M, Kimura T, Okada Y, Yozu R, Shukunami C, Hiraki Y, Kudo A, Ogawa S,

- Fukuda K. *Periostin advances atherosclerotic and rheumatic cardiac valve degeneration by inducing angiogenesis and MMP production in humans and rodents.* J Clin Invest. 2010 Jul 1;120 (7):2292-306
- Satirapoj B, Tassanasorn S, Charoenpitakchai M, Supasyndh O. *Periostin as a tissue and urinary biomarker of renal injury in type 2 diabetes mellitus.* PLoS One. 2015;10 (4):e0124055
  - Erkan M, Kleeff J, Gorbachevski A, Reiser C, Mitkus T, Esposito I, Giese T, Büchler MW, Giese NA, Friess H. *Periostin creates a tumor-supportive microenvironment in the pancreas by sustaining fibrogenic stellate cell activity.*
  - Blanchard C, Mingler MK, McBride M, Putnam PE, Collins MH, Chang G, Stringer K, Abonia JP, Molkentin JD, Rothenberg ME. *Periostin facilitates eosinophil tissue infiltration in allergic lung and esophageal responses.* Mucosal Immunol. 2008 Jul;1 (4):289-96
  - Kuhn B, del Monte F, Hajjar RJ, Chang YS, Lebeche D, Arab S, Keating MT. *Periostin induces proliferation of differentiated cardiomyocytes and promotes cardiac repair.* Nat Med. 2007 Aug;13 (8):962-9
  - Wallace DP, Quante MT, Reif GA, Nivens E, Ahmed F, Hempson SJ, Blanco G, Yamaguchi T. *Periostin induces proliferation of human autosomal dominant polycystic kidney cells through alphaV-integrin receptor.* Am J Physiol Renal Physiol. 2008 Nov;295 (5):F1463-71
  - Sen K, Lindenmeyer MT, Gaspert A, Eichinger F, Neusser MA, Kretzler M, Segerer S, Cohen CD. *Periostin is induced in glomerular injury and expressed de novo in interstitial renal fibrosis.* Am J Pathol. 2011 Oct;179 (4):1756-67
  - Kuo CH, Miyazaki D, Nawata N, Tominaga T, Yamasaki A, Sasaki Y, Inoue Y. *Prognosis-determinant candidate genes identified by whole genome scanning in eyes with pterygia.* Invest Ophthalmol Vis Sci. 2007 Aug;48 (8):3566-75
  - Bagnato C, Thumar J, Mayya V, Hwang SI, Zebroski H, Claffey KP, Haudenschild C, Eng JK, Lundgren DH, Han DK. *Proteomics analysis of human coronary atherosclerotic plaque: a feasibility study of direct tissue proteomics by liquid chromatography and tandem mass spectrometry.* Mol Cell Proteomics. 2007 Jun;6 (6):1088-102
  - Liang X, Zhao J, Hajivandi M, Wu R, Tao J, Amshey JW, Pope RM. *Quantification of membrane and membrane-bound proteins in normal and malignant breast cancer cells isolated from the same patient with primary breast carcinoma.* J Proteome Res. Oct;5(10):2632-41 (2006)
  - Morra L, Rechsteiner M, Casagrande S, Duc Luu V, Santimaria R, Diener PA, Sulser T, Kristiansen G, Schraml P, Moch H, Soltermann A. *Relevance of Periostin Splice Variants in Renal Cell Carcinoma.* Am J Pathol. 2011 Jul 14;
  - Riester M, Wei W, Waldron L, Culhane AC, Trippa L, Oliva E, Kim SH, Michor F, Huttenhower C, Parmigiani G, Birrer MJ. *Risk prediction for late-stage ovarian cancer by meta-analysis of 1525 patient samples.* J Natl Cancer Inst. 2014 May;106 (5)
  - Kuo CH, Miyazaki D, Yakura K, Araki-Sasaki K, Inoue Y. *Role of periostin and interleukin-4 in recurrence of pterygia.* Invest Ophthalmol Vis Sci. 2010 Jan;51 (1):139-43
  - Zhang Y, Zhang G, Li J, Tao Q, Tang W. *The expression analysis of periostin in human breast cancer.* J Surg Res. 2010 May 1;160 (1):102-6
  - Sun GW, Li JS, TangWH. *The Expression and Significance of Periostin in Human Gastric Carcinoma.*

## Note

This product is for research use only.

<b>HEADQUARTERS:</b> BioVendor Laboratorní medicína, a.s.	Karasek 1767/1	621 00 Brno CZECH REPUBLIC	Phone: +420-549-124-185 Fax: +420-549-211-460	E-mail: info@biovendor.com sales@biovendor.com Web: www.biovendor.com
<b>AUSTRIA:</b> BioVendor GesmbH	Gaudenzdorfer Gürtel 43-45	1120 Vienna AUSTRIA	Phone: +43-1-89090-25 Fax: +43-1-89051-63	E-mail: infoAustria@biovendor.com
<b>GERMANY, SWITZERLAND:</b> BioVendor GmbH	Otto-Hahn-Straße 16	34123 Kassel GERMANY	Phone: +49-6221-433-9100 Fax: +49-6221-433-9111	E-mail: infoEU@biovendor.com
<b>USA, CANADA AND MEXICO:</b> BioVendor LLC	128 Bingham Rd. Suite 1300	Asheville, NC 28806 USA	Phone: +1-828-575-9250 +1-800-404-7807 Fax: +1-828-575-9251	E-mail: infoUSA@biovendor.com