

PA514X

Recombinant Human Periostin (OSF-2) - Purified

Alternate names:

OSF-2, OSF2, Osteoblast-specific factor 2, PN, POSTN

Quantity:

0.1 mg

Concentration:

0.5 mg/ml

Background:

Periostin is a disulfide linked 90 kDa, 811 amino acid protein originally isolated as a 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 Cterminal 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.

Uniprot ID:

[Q15063](#)

NCBI:

[NP_001129406.1](#)

GeneID:

[10631](#)

Species:

Human

Source:

E. coli

Format:

State: Lyophilized (0.4 µm filtered) purified protein

Purity: >90% pure by SDS-PAGE.

Buffer System: 0.05 M Acetate buffer pH4

Reconstitution: Restore with 0.1M Acetate buffer pH4 to prepare a working stock solution of ~0.5 mg/ml.

Applications:

ELISA.

Western Blot.

Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Description:

The Human OSF-2 is created as a recombinant protein with N-terminal fusion of HisTag. The Human OSF-2 His-Tagged Fusion Protein, produced in E. coli, is 75 kDa protein containing 648 amino acid residues of the human OSF-2 and 23 additional amino acid residues - HisTag, Xa - cleavage site (underlined).

AA Sequence:

MGHHHHHHHH HHSSGHIEGR HMRNNHYDKI LAHSRIRGRD QGPNVCALQQ ILGTTKKKYFS
TCKNWKYSI CGQKTTVLYE CCPGYMRMEG MKGCPAVLPI DHVYGLGIV GATTTQRYSD
ASKLREEIEG KGSFTYFAPS NEAWDNLDSD IRRGLESNVN VELLNALHSH MINKRMLTKD
LKNGMIIPSM YNNLGLFINH YPNGVTVNC ARIIHGNQIA TNGVVHVIDR VLTQIGTSIQ
DFIEAEDDLS SFRAAAITSD ILEALGRDGH FTLFAPTNEA FEKLPRGVLE RFMGDKVASE
ALMKYHILNT LQCSSESIMGG AVFETLEGNT IEIGCDGDSI TVNGIKMVNK KDIVTNNQVI
HLIDQVLIPD SAKQVIELAG KQQTTFITDLV AQLGLASALR PDGEYTLAP VNNAFSDDTL
SMVQRLLKLI LQNHLKVKV GLNELYNGQI LETIGGKQLR VFVYRTAVCI ENSCMEKGSK

QGRNGAIHIF REIKPAEKS LHEKQDKR FSTFLSLLEA ADLKELLTQP GDWTLFVPTN
DAFKGMTSEE KEILIRDKNA LQNIILYHLT PGVFIGKGFE PGVTNLIKTT QGSKIFLKEV
NDTLLVNELK SKESDIMTTN GVIHVVDKLL YPADTPVGND QLEILNKLI KYIQIKFVRG
STFKEIPVTY Y

Molecular weight: 75 kDa (Calculated).

Add. Information:

Product is not sterile! Please filter the product by an appropriate sterile filter before using it in the cell culture.

Storage:

Store lyophilized protein (preferably in a desiccator) at -20°C and in aliquots at -80°C. Reconstituted protein can be stored at 4°C for a limited period of time and it does not show decline in activity after two weeks at 4°C.

Avoid repeated freezing and thawing.

Shelf life: one year from despatch.

General Readings:

1. Erkan M, Kleeff J, Gorbachevski A, Reiser C, Mitkus T, Esposito I, et al. Periostin creates a tumor-supportive microenvironment in the pancreas by sustaining fibrogenic stellate cell activity. *Gastroenterology*. 2007 Apr;132(4):1447-64. Epub 2007 Jan 25. PubMed PMID: 17408641.
2. Kühn B, del Monte F, Hajjar RJ, Chang YS, Lebecche D, Arab S, et al. Periostin induces proliferation of differentiated cardiomyocytes and promotes cardiac repair. *Nat Med*. 2007 Aug;13(8):962-9. Epub 2007 Jul 15. PubMed PMID: 17632525.
3. Butcher JT, Norris RA, Hoffman S, Mjaatvedt CH, Markwald RR. Periostin promotes atrioventricular mesenchyme matrix invasion and remodeling mediated by integrin signaling through Rho/PI 3-kinase. *Dev Biol*. 2007 Feb 1;302(1):256-66. Epub 2006 Oct 4. PubMed PMID: 17070513.
4. Horiuchi K, Amizuka N, Takeshita S, Takamatsu H, Katsuura M, Ozawa H, et al. Identification and characterization of a novel protein, periostin, with restricted expression to periosteum and periodontal ligament and increased expression by transforming growth factor beta. *J Bone Miner Res*. 1999 Jul;14(7):1239-49. PubMed PMID: 10404027.
5. Takeshita S, Kikuno R, Tezuka K, Amann E. Osteoblast-specific factor 2: cloning of a putative bone adhesion protein with homology with the insect protein fasciclin I. *Biochem J*. 1993 Aug 15;294 (Pt 1):271-8. PubMed PMID: 8363580.
6. Ulstrup JC, Jeansson S, Wiker HG, Harboe M. Relationship of secretion pattern and MPB70 homology with osteoblast-specific factor 2 to osteitis following *Mycobacterium bovis* BCG vaccination. *Infect Immun*. 1995 Feb;63(2):672-5. PubMed PMID: 7822037.

Pictures:

12% SDS-PAGE separation of Human OSF-2: 1. M.W. marker - 14, 21, 31, 45, 66, 97 kDa 2. Reduced and heated sample, 5µg/lane 3. Non-reduced and non-heated sample, 5µg/lane.

