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Product datasheet

Recombinant Human Asporin protein ab132382

1 Image

Description

Product name	Recombinant Human Asporin protein
Expression system	Wheat germ
Accession	Q6P528
Protein length	Full length protein
Animal free	No
Nature	Recombinant
Species	Human
Sequence	MKEYVLLLFLALCSAKPFFSPSHIALKNMMLKDMEDTDDD DDDDDDDDDD DDDDEEDNSLFPTREPRSHFFPFDLFPMCPFGCQCYSR VVHCSDLGLTSV PTNIPFDTRMLDLQNNKIKEIKENDFKGLTSLYGLILNNNKLT KIHPKAF LTTKKLRRLYLSHNQLSEIPLNLPKSLAELRIHENKVKKIQK DTFKGMNA LHVLEMSANPLDNNGIEPGAFEGVTVFHIRIAEAKLTSVPK GLPPTLLEL HLDYNKISTVELEDFKRYKELQRLGLGNNKITDIENGSLANI PRVREIHL ENNKLKKIPSGLPELKYLQIIFLHSNSIARVGVNDFCPTVPK MKKSLYSA ISLFNNPVKYWEMQPATFRCVLSRMSVQLGNFGM
Predicted molecular weight	70 kDa including tags
Amino acids	1 to 384
Tags	GST tag N-Terminus

Specifications

Our **Abpromise guarantee** covers the use of **ab132382** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	Western blot
	SDS-PAGE

	ELISA
Form	Liquid
Additional notes	

Preparation and Storage

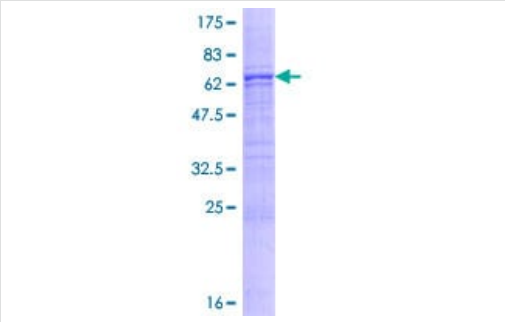
Stability and Storage	Shipped on dry ice. Upon delivery aliquot and store at -80ºC. Avoid freeze / thaw cycles. pH: 8.00 Constituents: 0.31% Glutathione, 0.79% Tris HCl

General Info

Function	Negatively regulates periodontal ligament (PDL) differentiation and mineralization to ensure that the PDL is not ossified and to maintain homeostasis of the tooth-supporting system. Inhibits BMP2-induced cytodifferentiation of PDL cells by preventing its binding to BMPR1B/BMP type-1B receptor, resulting in inhibition of BMP-dependent activation of SMAD proteins (By similarity). Critical regulator of TGF-beta in articular cartilage and plays an essential role in cartilage homeostasis and osteoarthritis (OA) pathogenesis. Negatively regulates chondrogenesis in the articular cartilage by blocking the TGF-beta/receptor interaction on the cell surface and inhibiting the canonical TGF-beta/Smad signal. Binds calcium and plays a role in osteoblast-driven collagen biomineralization activity.
Tissue specificity	Higher levels in osteoarthritic articular cartilage, aorta, uterus. Moderate expression in small intestine, heart, liver, bladder, ovary, stomach, and in the adrenal, thyroid, and mammary glands. Low expression in trachea, bone marrow, and lung. Co-localizes with TGFB1 in chondrocytes within osteoarthritic (OA) lesions of articular cartilage.
Involvement in disease	Genetic variations in ASPN are associated with susceptibility to osteoarthritis type 3 (OS3) [MIM:607850]; also known as osteoarthritis of knee/hip. Osteoarthritis is a degenerative disease of the joints characterized by degradation of the hyaline articular cartilage and remodeling of the subchondral bone with sclerosis. Clinical symptoms include pain and joint stiffness often leading to significant disability and joint replacement. Note=Susceptibility to osteoarthritis is conferred by a triplet repeat expansion polymorphism. ASPN allele having 14 aspartic acid repeats in the N-terminal region of the protein (D14), is overrepresented relative to the common allele having 13 aspartic acid repeats (D13). The frequency of the D14 allele increases with disease severity. The D14 allele is also overrepresented in individuals with hip osteoarthritis. Defects in ASPN are a cause of susceptibility to intervertebral disk disease (IDD) [MIM:603932]. A common musculo-skeletal disorder caused by degeneration of intervertebral disks of the lumbar spine. It results in low-back pain and unilateral leg pain. Note=Susceptibility to intervertebral disk disease, particularly lumbar disk degeneration, is conferred by a triplet repeat expansion polymorphism. ASPN allele having 14 aspartic acid repeats in the N-terminal region of the protein (D14), is associated with the disorder in some populations (PubMed:18304494).
Sequence similarities	Belongs to the small leucine-rich proteoglycan (SLRP) family. SLRP class I subfamily. Contains 11 LRR (leucine-rich) repeats. Contains 1 LRRNT domain.
Domain	The LRR 5 repeat can inhibit BMP2-induced cytodifferentiation and may be involved in the interaction with BMP2 (By similarity). The repeats LRR 10, LRR 11 and LRR 12 are involved in binding type I collagen. The poly-Asp region is involved in binding calcium.

Post-translational modifications	There is no serine/glycine dipeptide sequence expected for the attachment of O-linked glycosaminoglycans and this is probably not a proteoglycan. The O-linked polysaccharide on 54-Ser is probably the mucin type linked to GalNAc. The N-linked glycan at Asn-282 is composed of variable structures of GlcNAc, mannose, fucose, HexNAc and hexose.
Cellular localization	Secreted > extracellular space > extracellular matrix.

Images



SDS-PAGE - Recombinant Human Asporin protein (ab132382)

12.5% SDS-PAGE analysis of ab132382 stained with Coomassie Blue.

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