



Recombinant Human Asporin (ASPN)

Product Code	CSB-EP002230HU
Relevance	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.
Abbreviation	ASPN
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	Q9BXN1
Alias	Periodontal ligament-associated protein 1 Short name:PLAP-1
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	DMEDTDDDDDDDDDDDDDDDEDNSLFPTREPRSHFFPFDLFPMCPFGCQCYS RVVHCSDLGLTSVPTNIPFDTRMLDLQNNKIKEIKENDFKGLTSLYGLILNNNKL TKIHPKAFLTTKKLRRLYLSHNQLSEIPLNLPKSLAELRIHENKVKKIQKDTFKGM NALHVLEMSANPLDNNNGIEPGA FEGVTVFHIRIAEAKLTSVPKGLPPTLLELHLD YNKISTVELEDFKRYKELQRLGLGNNKITDIENGLANIPRVREIHLENNKLKKIP SGLPELKYLQIIFLHSNSIARVGVNDFCPTVPKMKKSLYSAISLFNNPVKYWEM QPATFRCVLSRMSVQLGNFGM
Lead Time	3-7 business days
Research Area	Signal Transduction
Source	E.coli
Gene Names	ASPN
Protein Names	Recommended name: Asporin Alternative name(s): Periodontal ligament-associated protein 1 Short name= PLAP-1
Expression Region	33-380aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.

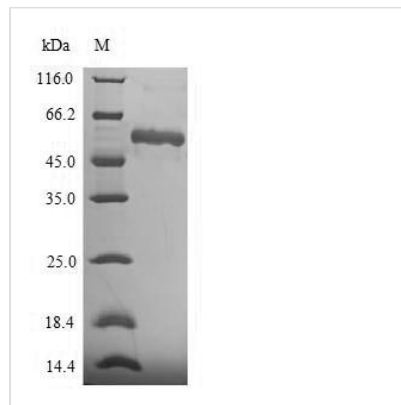


Tag Info N-terminal 6xHis-SUMO-tagged

Mol. Weight 55.7kDa

Protein Description Full Length of Mature Protein

Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

The expression of recombinant human ASPN protein includes the construction of the expression vector containing the recombinant DNA and the transformation of the expression vector into the E.coli, which provides a variety of macromolecules and components required for transcription and translation. The recombinant DNA was formed by fusing the N-terminal 6xHis-SUMO tag sequence to the designated sequence encoding the 33-380aa of the human ASPN protein. This N-terminal 6xHis-SUMO-tagged recombinant human ASPN protein is also characterized by high purity, >90%. Under SDS-PAGE condition, this recombinant ASPN protein migrated to the band of about 55 kDa molecular weight.

It is well-documented that ASPN was upregulated in different stages of gastric cancer (GC), and associated with a poor prognosis and could serve as a potential prognostic biomarker in colorectal cancer. Further data suggested that it promotes the migration and invasion of colorectal cancer cells via TGFβ/Smad2/3 pathway. Asporin as an ECM protein, which belongs to a small leucine-rich proteoglycan family. In ovarian carcinoma, researchers determined that ASPN is highly expressed in CAFs of high grade serous ovarian carcinoma patients and predicts poor prognosis. Moreover, ASPN may be a potential promising biomarker for heart failure. ASPN protein was reported to significantly increased in ischemic cardiomyopathy and dilated cardiomyopathy left ventricular samples. ASPN protein was significantly increased in ICM and DCM left ventricular samples. In addition, asporin levels will be increased as a result of degeneration in advanced TMJ joint disease with tissue damage.

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL. We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.