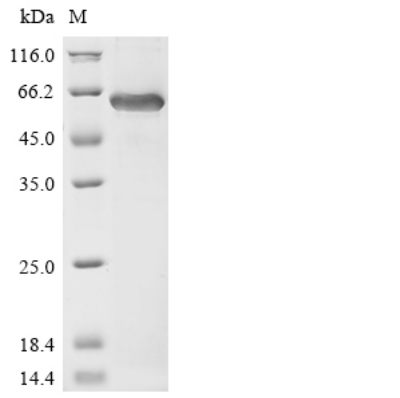
Recombinant Human Cartilage matrix protein (MATN1)

Product Code	CSB-EP013520HU
Abbreviation	Recombinant Human MATN1 protein
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.	P21941
Form	Liquid or Lyophilized powder
Storage Buffer	If the delivery form is liquid, the default storage buffer is Tris/PBS-based buffer, 5%-50% glycerol. If the delivery form is lyophilized powder, the buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose.
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	SPGLAPQSRGHLCRTRPTDLVFVVDSSRSVRPVEFEKVKVFLSQVIESLDVGP NATRVGMVNYASTVKQEFSLRAHVSKAALLQAVRRIQPLSTGTMTGLAIQFAIT KAFGDAEGGRSRSPDISKVVIVVTDGRPQDSVQDVSARARASGVELFAIGVGS VDKATLRQIASEPQDEHVDYVESYSVIEKLSRKFQEAFCVVSDLCATGDHDCE QVCISSPGSYTCACHEGFTLNSDGKTCNVCSGGGGSSATDLVFLIDGSKSVRP ENFELVKKFISQIVDTLDVSDKLAQVGLVQYSSSVRQEFPLGRFHTKKDIKAAV RNMSYMEKGTMTGAALKYLIDNSFTVSSGARPGAQKVGIVFTDGRSQDYINDA AKKAKDLGFKMFAVGVGNAVEDELREIASEPVAEHYFYTADFKTINQIGKKLQK KICVEEDPCACESLVKFQAKVEGLLQALTRKLEAVSKRLAILENTVV
Research Area	Signal Transduction
Source	E.coli
Target Names	MATN1
Expression Region	23-496aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-tagged
Mol. Weight	57.3 kDa
Protein Length	Full Length of Mature Protein
Image	



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

Description

Recombinant human cartilage matrix protein (MATN1) production begins synthesizing the human MATN1 (23-496aa)-encoding gene, which is fused with an N-terminal 6xHis-tag gene. This fused gene is cloned into an appropriate expression vector and introduced into E. coli cells, from which those containing the expression vector are selected. The positive cells are cultured to express the recombinant MATN1 protein, which is harvested from the cell lysate. The recombinant MATN1 protein is purified using affinity chromatography. Its purity is over 85% as determined by SDS-PAGE.

Human cartilage matrix protein, also called Matrilin-1, is encoded by the MATN1 gene and is a crucial component of the cartilage extracellular matrix (ECM). Matrilin-1 acts as an adaptor protein that bridges the collagen II and proteoglycan networks within the cartilage [1]. It forms homotrimers in mature cartilage, with the potential to form homotetramers under certain conditions [2]. Matrilin-1 plays a significant role in collagen fibrillogenesis and organization within the cartilage ECM [1]. It has been associated with the development and aging of articular cartilage, aiding in distinguishing different cartilage types based on its distribution [3]. Furthermore, studies have shown that matrilin-1 is involved in skeletal development, as evidenced by the fact that mice lacking matrilin-1 exhibited alterations in type II collagen fibrillogenesis and organization [1].

References:
[1] X. Huang, D. Birk, & P. Goetinck, Mice lacking matrilin-1 (cartilage matrix protein) have alterations in type ii collagen fibrillogenesis and fibril organization, Developmental Dynamics, vol. 216, no. 4/5, p. 434-441, 1999. https://doi.org/10.1002/(sici)1097-0177(199912)216:4/53.0.co;2-x
[2] A. Klatt, D. Nitsche, B. Kobbe, M. Mörgelin, M. Paulsson, & R. Wagener, Molecular structure and tissue distribution of matrilin-3, a filament-forming extracellular matrix protein expressed during skeletal development, Journal of Biological Chemistry, vol. 275, no. 6, p. 3999-4006, 2000. https://doi.org/10.1074/jbc.275.6.3999
[3] E. Kavanagh and D. Ashhurst, Development and aging of the articular cartilage of the rabbit knee joint: distribution of biglycan, decorin, and matrilin-1, Journal of Histochemistry & Cytochemistry, vol. 47, no. 12, p. 1603-1615, 1999. https://doi.org/10.1177/002215549904701212

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.
Shelf Life	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.