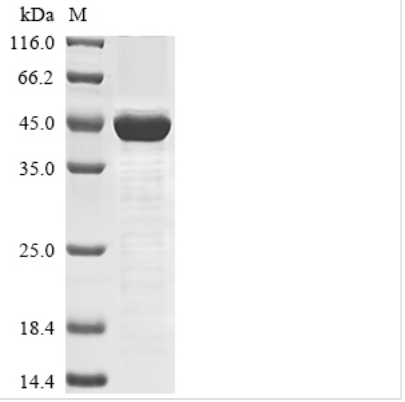
Recombinant Human Hyaluronan and proteoglycan link protein 4 (HAPLN4)

Product Code	CSB-EP010133HU
Abbreviation	Recombinant Human HAPLN4 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.	Q86UW8
Product Type	Recombinant Proteins
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	QRGRKKVVHVLEGESGSVVVQTAPGQVVSHRGGTIVLPCRYHYEAAAHGHD GVRLKWTKVVDPLAFTDVFVALGPQHRAFGSYRGRAELQGDGPGDASLVLR NVTLQDYGRYECEVTNELEDDAGMVKLDLEGVVFPYHPRGGRYKLTFAEAQR ACAEQDGILASAEQLHAAWRDGLDWCNAGWLRDGSVQYPVNRPREPCGGL GGTGSAGGGGDANGGLRNYGYRHNAEERYDAFCFTSNLPGRVFFLKPLRPV PFSGAARACAARGAAVAKVGQLFAAWKLQLLDRCTAGWLADGSARYPIVNPR ARCGGRRPGVRSLGFPDATRRLFGVYCYRAPGAPDPAPGGWGWGWAGGG GWAGGARDPAAWTPLHV
Research Area	Signal Transduction
Source	E.coli
Target Names	HAPLN4
Protein Names	Recommended name: Hyaluronan and proteoglycan link protein 4 Alternative name(s): Brain link protein 2
Expression Region	30-402aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 10xHis-tagged
Mol. Weight	43.7 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 Hyaluronan and Proteoglycan Link Protein 4 (HAPLN4) is produced in E. coli and spans the complete mature protein sequence from amino acids 30 to 402. The protein carries an N-terminal 10xHis-tag for easier purification and detection. SDS-PAGE analysis shows purity levels above 85%, which appears to provide reliable performance for research work.

HAPLN4 likely plays a crucial role in stabilizing how hyaluronic acid and proteoglycans interact within the extracellular matrix. It seems particularly important for maintaining the structural integrity of cartilage and neural tissues. Research into HAPLN4's molecular pathways may prove essential for understanding how tissues develop and repair themselves.

Potential Applications

Note: The applications listed below are based on what we know about this protein's biological functions, published research, and experience from experts in the field. However, we haven't fully tested all of these applications ourselves yet. We'd recommend running some preliminary tests first to make sure they work for your specific research goals.

1. Antibody Development and Validation

This recombinant HAPLN4 protein works well as an immunogen for creating both polyclonal and monoclonal antibodies that target human HAPLN4. The N-terminal 10xHis tag makes purification straightforward and allows for easy immobilization during antibody screening. Researchers can also use it as a positive control in Western blots, ELISAs, and immunofluorescence experiments to confirm antibody specificity. The 85%+ purity level should be sufficient for most immunization protocols and follow-up antibody characterization work.

2. Protein-Protein Interaction Studies

His-tagged HAPLN4 works particularly well in pull-down experiments designed to find new binding partners or verify known interactions with extracellular matrix components. The 10xHis tag allows researchers to attach the protein to nickel-based resins, making it possible to capture interacting proteins from cell lysates or purified protein solutions. This method may help clarify HAPLN4's actual role in organizing the extracellular matrix and reveal how it interacts within

proteoglycan complexes. The recombinant protein can also serve as bait in co-immunoprecipitation studies when paired with suitable antibodies.

3. ELISA-Based Quantitative Assays

The purified HAPLN4 protein serves as either a standard or coating antigen in enzyme-linked immunosorbent assays for research purposes. The His tag enables consistent, oriented attachment to nickel-coated plates, which might improve both assay reliability and sensitivity. Researchers can use this protein to build sandwich ELISAs for measuring HAPLN4 concentrations in cell culture media or tissue samples. The known concentration and purity make it well-suited for creating standard curves in quantitative immunoassays.

4. Cell Culture Studies and Extracellular Matrix Research

Researchers can add this recombinant HAPLN4 directly to cell culture systems to examine how it affects cell behavior, adhesion, or movement patterns in vitro. The protein proves useful for studying extracellular matrix assembly by observing cellular responses to added HAPLN4 under controlled culture conditions. Scientists might explore its potential in tissue engineering applications or investigate its broader functions in extracellular matrix biology. Using recombinant protein creates more controlled experimental conditions compared to proteins extracted from tissues, which often show batch-to-batch variation.

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.