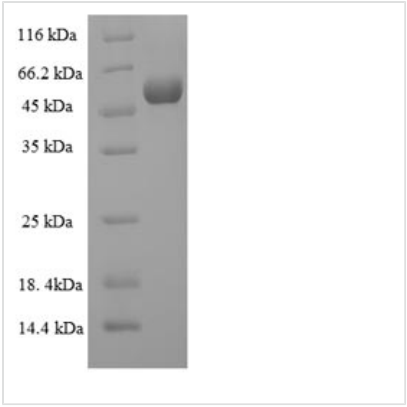
Recombinant Human Collagenase 3 (MMP13)

Product Code	CSB-EP014660HU
Relevance	Plays a role in the degradation of Extracellular domain matrix proteins including fibrillar collagen, fibronectin, TNC and ACAN. Cleaves triple helical collagens, including type I, type II and type III collagen, but has the highest activity with soluble type II collagen. Can also degrade collagen type IV, type XIV and type X. May also function by activating or degrading key regulatory proteins, such as TGFB1 and CTGF. Plays a role in wound healing, tissue rodeling, cartilage degradation, bone development, bone mineralization and ossification. Required for normal bryonic bone development and ossification. Plays a role in the healing of bone fractures via endochondral ossification. Plays a role in wound healing, probably by a mechanism that involves proteolytic activation of TGFB1 and degradation of CTGF. Plays a role in keratinocyte migration during wound healing. May play a role in cell migration and in tumor cell invasion.
Abbreviation	Recombinant Human MMP13 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.	P45452
Alias	Matrix metalloproteinase-13 ;MMP-13
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	YNVFPRTLKWSKMNLTYRIVNYTPDMTHSEVEKAFKKAFKVWSDVTPLNFTRL HDGIADIMISFGIKEHGDFYPFDGPSGLLAHAFPPGPNYGGDAHFDDDETWTS SSKGYNLFLVAAHEFGHSLGLDHSKDPGALMFPIYTYTGKSHFMLPDDDVQGI QSLYGPGDEDPNPKHPKTPDKCDPSLSLDAITSLRGETMIFKDRFFWRLHPQQ VDAELFLTKSFWPELPNRIDAAYEHPSHDLIFIFRGRKFWALNGYDILEGYPKKI SELGLPKEVKKISAAVHFEDTGKTLLFSGNQVWRYDDTNHIMDKDYPRLIEEDF PGIGDKVDAVYEKNGYIYFFNGPIQFEYSIWSNRIVRVMPANSILWC
Research Area	Developmental Biology
Source	E.coli
Target Names	MMP13
Expression Region	104-471aa
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	58.3kDa

Protein Length	Full Length of Mature Protein

Image



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

Description

Amino acids 104-471 form the expressed segment for recombinant Human MMP13. The calculated molecular weight for this MMP13 protein is 58.3 kDa. This protein is generated in a e.coli-based system. The MMP13 gene fragment has been modified by fusing the N-terminal 6xHis-SUMO tag, providing convenience in detecting and purifying the recombinant MMP13 protein during the following stages.

Collagenase 3, also known as matrix metalloproteinase 13 (MMP13), is a zinc-dependent endopeptidase involved in the degradation of extracellular matrix components, particularly type II collagen in cartilage. MMP13 plays a crucial role in tissue remodeling, wound healing, and skeletal development. Its dysregulation is associated with various pathological conditions, including osteoarthritis and rheumatoid arthritis. Research on MMP13 spans multiple areas, including musculoskeletal biology, connective tissue disorders, and inflammatory diseases. Investigating the regulatory mechanisms and signaling pathways involving MMP13 can provide insights into therapeutic strategies for conditions involving abnormal tissue remodeling and degradation of the extracellular matrix.

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

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