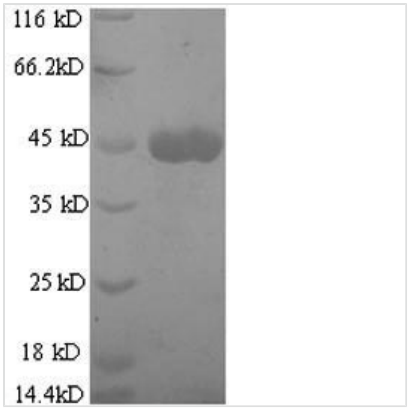
Recombinant Mouse Collagenase 3 (Mmp13)

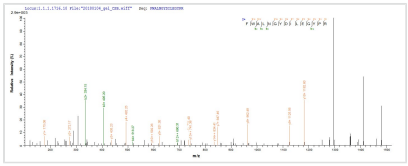
Product Code	CSB-EP014660MO
Relevance	Plays a role in the degradation of Extracellular domain matrix proteins including fibrillar collagen, fibronectin, TNC and ACAN. Cleaves triple helical collagens, including type I, type II and type III collagen, but has the highest activity with soluble type II collagen. 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 Mouse 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.	P33435
Alias	Matrix metalloproteinase-13 ;MMP-13
Product Type	Recombinant Protein
Immunogen Species	Mus musculus (Mouse)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	YNVFPRTLKWSQTNLTYRIVNYTPDMSHSEVEKAFRKAFKVWSDVTPLNFTRI YDGTADIMISFGTKEHGDFYPFDGPSGLLAHAFPPGPNYGGDAHFDDDETWT SSSKGYNLFIVAAHELGHSLGLDHSKDPGALMFPIYTYTGKSHFMLPDDDVQGI QFLYGPGDEDPNPKHPKTPEKCDPALSLDAITSLRGETMIFKDRFFWRLHPQQ VEAELFLTKSFWPELPNHVDAAYEHPSRDLMFIFRGRKFWALNGYDILEGYPR KISDLGFPKEVKRLSAAVHFENTGKTLFFSENHVWSYDDVNQTMDKDYPRLIE EEFPGIGNKVDAVYEKNGYIYFFNGPIQFEYSIWSNRIVRVMPTNSILWC
Research Area	Others
Source	E.coli
Target Names	Mmp13
Expression Region	105-472aa
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	46.5kDa

Protein Length Full Length of Mature Protein

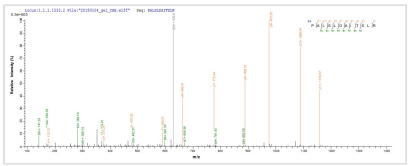
Image



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



Based on the SEQUEST from database of E.coli host and target protein, the LC-MS/MS Analysis result of CSB-RP177394m could indicate that this peptide derived from E.coli-expressed Mus musculus (Mouse) Mmp13.



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Description

The process of expressing this Mouse Mmp13 recombinant protein in E.coli expression system requires the following steps: use of competent E. coli cells to take up DNA sequence of interest, the exogenous plasmid is transferred into the cell, and the transcription and translation are directly replicated in the cell, selection of transformed E. coli using a selection marker, expansion of selected E. coli to a higher scale in appropriate culture media, such as classic LB options Growth Systems and lastly isolation and purification.And we finally get a Mmp13 protein with N-terminal 6xHis tag and it is determined by SDS-PAGE with a purity of 90%+.

MMP13 is a protein coding gene that encodes Collagenase 3 (Matrix metalloproteinase-13). According to some studies, MMP13 may have the following features.
MMP13 is a key target gene in the progression of osteoarthritis. MiR-9 was found to inhibit the secretion of type II collagen-targeted metalloproteinase MMP13 in isolated human chondrocytes. MMP13 may be a new tumor marker for the diagnosis of breast cancer. MMP13 is a stromal mediator that controls persistent angiogenesis in skin cancer. circRNA-CER participates in chondrocyte ECM degradation by regulating the expression of MMP13 as a competing endogenous RNA. MMP13 polymorphism reduces the risk of dental caries.

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.