abcam

Product datasheet

Recombinant human MMP13 protein ab134452

1 References 1 Image

Description

Product name	Recombinant human MMP13 protein
Biological activity	The specific activity is >0.5 U/mg. 1 U is the activity that hydrolyzes 1 mmol peptide (7-methoxycoumarin-4-yl) acetyl-Pro-Leu-Gly-Leu-(3-[2, 4-dinitrophenyl]-L-2, 3-diamino-propionyl)-Ala-Arg-NH2 (Mca-Pro-Leu-Gly-Leu-Dpa-Ala-Arg) within 1 min.
Purity	> 90 % SDS-PAGE.
Expression system	Escherichia coli
Accession	P45452
Protein length	Protein fragment
Animal free	No
Nature	Recombinant
Species	Human
Sequence	YNVFPRTLKWSKMNLTYRIVNYTPDMTHSEVEKAFKKAFK VWSDVTPLNF TRLHDGIADIMISFGIKEHGDFYPFDGPSGLLAHAFPPGPN YGGDAHFDD DETWTSSSKGYNLFLVAAHEFGHSLGLDHSKDPGALMFP IYTYTGKSHFM LPDDDVQGIQSLYGPGDEDPN
Predicted molecular weight	19 kDa
Amino acids	104 to 274

Specifications

Our **Abpromise guarantee** covers the use of **ab134452** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	SDS-PAGE
	Functional Studies
Form	Liquid

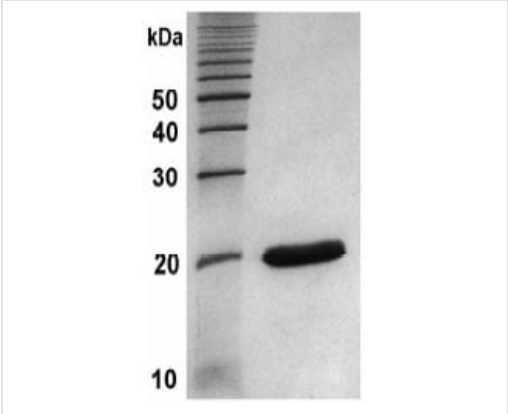
Preparation and Storage

Stability and Storage	Shipped on dry ice. Upon delivery aliquot and store at -80ºC. Avoid freeze / thaw cycles. pH: 7.50 Constituents: 0.05% Calcium chloride, 0.79% Tris HCl, 0.88% Sodium chloride This product is an active protein and may elicit a biological response in vivo, handle with caution.

General Info

Function	Degrades collagen type I. Does not act on gelatin or casein. Could have a role in tumoral process.
Tissue specificity	Seems to be specific to breast carcinomas.
Involvement in disease	Defects in MMP13 are the cause of spondyloepimetaphyseal dysplasia Missouri type (SEMD-MO) [MIM:602111]. A bone disease characterized by moderate to severe metaphyseal changes, mild epiphyseal involvement, rhizomelic shortening of the lower limbs with bowing of the femora and/or tibiae, coxa vara, genu varum and pear-shaped vertebrae in childhood. Epimetaphyseal changes improve with age. Defects in MMP13 are the cause of metaphyseal anadysplasia type 1 (MANDP1) [MIM:602111]. Metaphyseal anadysplasia consists of an abnormal bone development characterized by severe skeletal changes that, in contrast with the progressive course of most other skeletal dysplasias, resolve spontaneously with age. Clinical characteristics are evident from the first months of life and include slight shortness of stature and a mild varus deformity of the legs. Patients attain a normal stature in adolescence and show improvement or complete resolution of varus deformity of the legs and rhizomelic micromelia.
Sequence similarities	Belongs to the peptidase M10A family. Contains 4 hemopexin-like domains.
Domain	The conserved cysteine present in the cysteine-switch motif binds the catalytic zinc ion, thus inhibiting the enzyme. The dissociation of the cysteine from the zinc ion upon the activation-peptide release activates the enzyme.
Cellular localization	Secreted > extracellular space > extracellular matrix.

Images



SDS-PAGE - Recombinant human MMP13 protein (ab134452)

SDS-PAGE analysis of ab134452 (4µg).

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