

Recombinant Rat MMP2 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52341

Size: 10ug, 100ug

Protein Name: 72 kDa type IV collagenase (EC 3.4.24.24) (72 kDa gelatinase) (Gelatinase A) (Matrix metalloproteinase-2) (MMP-2) [Cleaved into: PEX]

Synonym: Mmp2

UniProt ID: P33436

UniProt Link: www.uniprot.org/uniprotkb/P33436/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 662 AA

Molecular Weight: 74 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MEARLVWGVLVGPLRVLCVLCCLLGHAI AAPSPIIKFPGDVSPKTDKELAVQYLNTFYGCPKESCNLF
VLKDTLKKMQKFFGLPQTGDLDQNTIETMRKPRCGNPDVANYNFFPRKPKWDKNQITYRIIGYTPDL
DPETVDDAFARALKVWSDVTPLRFSRIHDGEADIMINFRWEHGDGYFPDGDGKDLLAHAFAPGTGV
GGDSHFDDDELWTLGEGQVVRVKYGNADGEYCKFPFLFNGREYSSCTDTGRSDGFLWCSTTYNF
EKDGKYGFCPHEALFTMGNGDQGQCKFPFRFQGTSYNSCTTEGRTDGYRWCGTTEDYDRDKKY
GFCPETAMSTVGGNSEGAPCVFPFTFLGNKYESCTSAGRSDGKVCATTTNYDDDRKWGFCPDQ
GYSFLVAAHEFGHAMGLEHSQDPGALMAPIYTYTKNFRLSNDDIKGIQELYGPSPDADTDTGTGPT
PTLGPVTPEICKQDIVFDGIAQIRGEIFFFKDRFIWRTVTPRDKPTGPLLVA TFWPPELPEKIDAVYEAPQ
EEKAVFFAGNEYWVYSASTLERGYPKPLTSLGLPPDVQQVDAAFNWSKNKTYIFSGDKFWRYNEV
KKKMDPGFPKLIADSWNAIPDNLDVVDLQGGGHSYFFKGAYYKLENQSLKSVKFGSIKSDWLGC

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant 72 kDa type IV collagenase (EC 3.4.24.24) (72 kDa gelatinase) (Gelatinase A) (Matrix metalloproteinase-2) (MMP-2) [Cleaved into: PEX] produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Ubiquitous metalloproteinase that is involved in diverse functions such as remodeling of the vasculature, angiogenesis, tissue repair, tumor invasion, inflammation, and atherosclerotic plaque rupture. As well as degrading extracellular matrix proteins, can also act on several nonmatrix proteins such as big endothelial 1 and beta-type CGRP promoting vasoconstriction. Also cleaves KISS at a Gly-I-Leu bond. Appears to have a role in myocardial cell death pathways. Contributes to myocardial oxidative stress by regulating the activity of GSK3beta. Cleaves GSK3beta in vitro. Involved in the formation of the fibrovascular tissues (By similarity).; PEX, the C-terminal non-catalytic fragment of MMP2, possesses anti-angiogenic and anti-tumor properties and inhibits cell migration and cell adhesion to FGF2 and vitronectin. Ligand for integrin alpha-v/beta3 on the surface of blood vessels (By similarity).

Subcellular Localization: Secreted, extracellular space, extracellular matrix . Membrane . Nucleus .
Note=Colocalizes with integrin alphaV/beta3 at the membrane surface in angiogenic blood vessels and melanomas. Found in mitochondria, along microfibrils, and in nuclei of cardiomyocytes (By similarity).

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer- composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.