abcam

Product datasheet

Recombinant human MMP2 protein (Active) ab81550

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Description

Product name	Recombinant human MMP2 protein (Active)
Biological activity	MMP2 activity was measured by its ability to cleave a chromogenic peptide MMP2 substrate at room temperature. At an MMP2 concentration of 2.5 µg/ml, 50% cleavage was achieved at an incubation time of approximately 25 minutes.
Purity	>= 98 % SDS-PAGE. >= 98% HPLC.
Endotoxin level	< 1.000 Eu/µg
Expression system	Escherichia coli
Accession	P08253
Protein length	Full length protein
Animal free	No
Nature	Recombinant
Species	Human
Sequence	MYNFFPRKPK WDKNQITYRI IGYTPDLDPE TVDDAFARAF QVWSDVTPLR FSRIHDGEAD IMINFGRWEH GDGYPFDGKD GLLAHAFAPG TGVGGDSHFD DDELWTLGEG QVVRVKYGNA DGEYCKFPFL FNGKEYNSCT DTGRSDGFLW CSTTYNFEKD GKYGFCPHEA LFTMGGNAEG QPCKFPFRFQ GTSYDSCTTE GRTDGYRWCG TTEDYDRDKK YGFCPETAMS TVGGNSEGAP CVFPFTFLGN KYESCTSAGR SDGKMWCATT ANYDDDRKWG FCPDQGYSLF LVAAHEFGHA MGLEHSQDPG ALMAPIYTYT KNFRLSQDDI KGIQELYGAS PDIDLGTGPT PTLGPVTPEI CKQDIVFDGI AQIRGEIFFF KDRFIWRTVT PRDKPMGPLL VATFWPELPE KIDAVYEAPQ EEKAVFFAGN EYWIYSASTL ERGYPKPLTS LGLPPDVQRV DAAFNWSKNK KTYIFAGDKF WRYNEVKKKM DPGFPKLIAD AWNAIPDNLD AVVDLQGGGH SYFFKGAYYL KLENQSLKSV KFGSIKSDWL GC
Predicted molecular weight	62 kDa

Amino acids	109 to 660
Additional sequence information	ab81550 contains the entire catalytic N-terminal domain and the C-terminal domain (552 amino acids).

Specifications

Our **Abpromise guarantee** covers the use of **ab81550** in the following tested applications.

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

Applications	HPLC SDS-PAGE
Form	Lyophilized

Preparation and Storage

Stability and Storage	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle. This product is an active protein and may elicit a biological response in vivo, handle with caution.
Reconstitution	Reconstitute in water to a concentration of 0.1 mg/ml. Please note that if you receive this product in liquid form, it has already been reconstituted as described and no further reconstitution is necessary.

General Info

Function	Ubiquitinous 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- -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. PEX, the C-terminal non-catalytic fragment of MMP2, posseses anti-angiogenic and anti-tumor properties and inhibits cell migration and cell adhesion to FGF2 and vitronectin. Ligand for integrinv/beta3 on the surface of blood vessels.
Tissue specificity	Produced by normal skin fibroblasts. PEX is expressed in a number of tumors including gliomas, breast and prostate.
Involvement in disease	Defects in MMP2 are the cause of Torg-Winchester syndrome (TWS) [MIM:259600]; also known as multicentric osteolysis nodulosis and arthropathy (MONA). TWS is an autosomal recessive osteolysis syndrome. It is severe with generalized osteolysis and osteopenia. Subcutaneous nodules are usually absent. Torg-Winchester syndrome has been associated with a number of additional features including coarse face, corneal opacities, patches of thickened, hyperpigmented skin, hypertrichosis and gum hypertrophy. However, these features are not always present and have occasionally been observed in other osteolysis syndromes.
Sequence similarities	Belongs to the peptidase M10A family. Contains 3 fibronectin type-II domains. 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.
Post-translational modifications	Phosphorylation on multiple sites modulates enzymatic activity. Phosphorylated by PKC in vitro. The propeptide is processed by MMP14 (MT-MMP1) and MMP16 (MT-MMP3). Autocatalytic cleavage in the C-terminal produces the anti-angiogenic peptide, PEX. This processing appears to be facilitated by binding integrinv/beta3.
Cellular localization	Secreted > extracellular space > extracellular matrix. Membrane. Nucleus. 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.

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