Active Recombinant Human MMP2 Protein, His-tagged

Cat. No. MMP2-182H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human MMP2(Met 1-Cys 660) fused with His tag at the N-terminus was produced in HEK293.
Species	Human
Source	HEK293
ProteinLength	Met 1-Cys 660
Description	Matrix Metalloproteinase-2 (MMP-2) is an enzyme that degrades components of the extracellular matrix and thus plays a pivotal role in cell migration during physiological and pathological processes. MMP-2 expression is dependent on extracellular matrix metalloproteinase inducer (EMMPRIN), Her2/neu, growth factors, cytokines, and hormones. Pro-MMP-2 activation needs MT1-MMP and TIMP-2 contribution. MMP-2 is changed in distribution and increased in amount in the ventral cochlear nucleus after unilateral cochlear ablation. A low level of MMP-2 is linked to favorable prognosis in patients with a hormone receptor-negative tumor, usually associated with high risk. As a zymogen requiring proteolytic activation for catalytic activity, MMP-2 has been implicated broadly in the invasion and metastasis of many cancer model systems, including human breast cancer (HBC). Blocking MMP-2 secretion and activation during breast carcinoma development may decrease metastasis. The detection of active MMP-2 alone or the rate of pro-MMP-2 and active MMP-2 is considered a very sensitive indicator of cancer metastasis. Modulation of MMP-2 expression and activation through specific inhibitors and activators may thus provide

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	a new mechanism for breast cancer treatment.
Predicted N Terminal	Ala 30
Form	Lyophilized from sterile 0.05 % Brij-35, 150 mM NaCl, 5 mM CaCl2, 50 mM Tris, pH 7.5. 1. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA.
Bio-activity	1. Measured by its ability to cleave the fluorogenic peptide substrate Mca-PLGL-Dpa-AR-NH2. The specific activity is > 1,000 pmoles/min/μg. 2. Measured by its binding ability in a functional ELISA. 3. Immobilized human MMP2 at 10 μg/mL (100 μl/well) can bind human TIMP2/Fc. The EC50 of human TIMP2/Fc is 0.02 μg/mL.
Molecular Mass	The recombinant human MMP2 consists of 631 amino acids and migrates as an 72 kDa band as predicted in SDS-PAGE under reducing conditions.
Endotoxin	< 1.0 EU per μg of the protein as determined by the LAL method
Purity	> (74.7+17.3) % as determined by SDS-PAGE
Stability	Samples are stable for up to twelve months from date of receipt at -70 centigrade
Storage	Store it under sterile conditions at -20 centigrade to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Reconstitution	Reconstitute in PBS or others

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Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

GENE INFORMATION

Gene Name	MMP2 matrix metallopeptidase 2 (gelatinase A, 72kDa gelatinase, 72kDa type IV collagenase) [Homo sapiens]
Official Symbol	MMP2
Synonyms	MMP2; matrix metallopeptidase 2 (gelatinase A, 72kDa gelatinase, 72kDa type IV collagenase); CLG4, CLG4A, matrix metalloproteinase 2 (gelatinase A, 72kD gelatinase, 72kD type IV collagenase) , matrix metalloproteinase 2 (gelatinase A, 72kDa gelatinase, 72kDa type IV collagenase); 72 kDa type IV collagenase; TBE 1; MMP-2; gelatinase A; 72 kDa gelatinase; collagenase type IV-A; neutrophil gelatinase; matrix metalloproteinase-2; matrix metalloproteinase-II; CLG4; MONA; CLG4A; TBE-1; MMP-II;
Gene ID	4313
mRNA Refseq	NM_001127891
Protein Refseq	NP_001121363
MIM	120360
UniProt ID	P08253

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