Recombinant Human MMP-2 Protein

Catalog No. PKSH031888

Note: Centrifuge before opening to ensure complete recovery of vial contents.

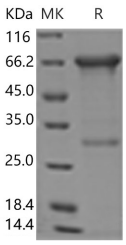
Description

Synonyms	72 kDa Type IV Collagenase;72 kDa Gelatinase;Gelatinase A;Matrix Metalloproteinase-2;MMP-2;TBE-1;MMP2;CLG4A;CLG4;MMP-II;MONA;TBE-1
Species	Human
Expression Host	HEK293 Cells
Sequence	Met 1-Cys 660
Accession	NP_004521.1
Calculated Molecular Weight	72 kDa
Observed molecular weight	72 kDa
Tag	None
Bioactivity	1. Measured by its ability to cleave the fluorogenic peptide substrate Mca-PLGL-Dpa-AR-NH2 (AnaSpec, Catalog # 27076). The specific activity is > 1, 000 pmoles/min/μg. 2. 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. (Activation description: The proenzyme needs to be activated by APMA for an activated form)

Properties

Purity	> 90 % as determined by reducing SDS-PAGE.
Endotoxin	< 1.0 EU per μg of the protein as determined by the LAL method.
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80℃. Reconstituted protein solution can be stored at 4-8℃ for 2-7 days. Aliquots of reconstituted samples are stable at < -20℃ for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from sterile PBS, pH 7.4 Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
Reconstitution	Please refer to the printed manual for detailed information.

Data



> 90 % as determined by reducing SDS-PAGE.

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Background

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 a new mechanism for breast cancer treatment.

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