Human MMP-2 Protein, His Tag
Catalog # MM2-H5225

Synonym
MMP2, CLG4, CLG4A, MMP-II, MONA, TBE-1

Source
Human MMP-2, His Tag (MM2-H5225) is expressed from human 293 cells (HEK293). It contains AA Ala 30 - Cys 660 (Accession # AAH02576). Predicted N-terminus: Ala 30

Molecular Characterization
Human MMP-2, His Tag is fused with a polyhistidine tag at the C-terminus, and has a calculated MW of 71.8 kDa. The predicted N-terminus is Ala 30. The reducing (R) protein migrates as 66-71 kDa in SDS-PAGE.

Pre-activation is required for enzymatic assays. Please dilute Human MMP-2 to 50-100 µg/mL in TCNB buffer (50 mM Tris, 10 mM CaCl2, 150 mM NaCl, 0.05% Brij-35 (w/v), pH 7.5), and then add p-aminophenylmercuric acetate (APMA, Sigma, Catalog # A-9563) to a final concentration of 1 mM. Please keep the enzyme with APMA for 2-6 hour at 37°C. Please note that the optimal treatment time may need to be determined empirically. *100mM APMA stock solution should be prepared in DMSO. Please avoid adding high concentration APMA solution (>20 mM) directly into the reaction as it tends to precipitate. A pre-dilution step is highly recommended.

Endotoxin
Less than 1.0 EU per µg by the LAL method.

Purity
>92% as determined by SDS-PAGE.

Formulation
Lyophilized from 0.22 µm filtered solution in 50 mM Tris, 150 mM NaCl, pH8.0. Normally trehalose is added as protectant before lyophilization.

Contact us for customized product form or formulation.

Reconstitution
Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

Storage
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

No activity loss was observed after storage at:
- 4-8°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE

Human MMP-2, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 92%.

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**Background**

Matrix metalloproteinase-2 (MMP-2) is also known as 72 kDa type IV collagenase, 72 kDa gelatinase, Gelatinase A and CLG4A, which belongs to the peptidase M10A family. MMP-2/CLG4A contains 3 fibronectin type-II domains and 4 hemopexin-like domains. MMP-2 is produced by normal skin fibroblasts. MMP-2 cleaves the collagen-like sequence Pro-Gln-Gly-Ile-Ala-Gly-Gln. MMP2 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, possesses anti-angiogenic and anti-tumor properties and inhibits cell migration and cell adhesion to FGF2 and vitronectin.

**References**


Please contact us via TechSupport@acrobiostems.com if you have any question on this product.