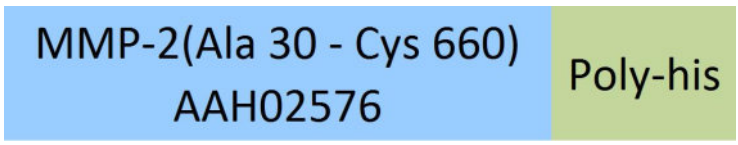
Synonym

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). It needs to be activated by agents such as APMA in vitro to have hydrolytic activity. Predicted N-terminus: Ala 30

Molecular Characterization



This protein carries a polyhistidine tag at the C-terminus.

The protein has a calculated MW of 71.8 kDa. The protein migrates as 66-71 kDa under reducing (R) condition (SDS-PAGE).

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.

This product is stable after storage at:

- -20°C to -70°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%.

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, posseses anti-angiogenic and anti-tumor properties and inhibits cell migration and cell adhesion to FGF2 and vitronectin.

Clinical and Translational Updates

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