

Recombinant Human TIMP-1/TIMP1 Protein

Catalog No. PKSH031348

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

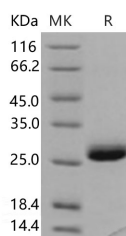
Description

Synonyms	Metalloproteinase Inhibitor 1;Erythroid-Potentiating Activity;EPA;Fibroblast collagenase Inhibitor;Collagenase Inhibitor;Tissue Inhibitor of Metalloproteinases 1;TIMP-1;TIMP1;CLGI;TIMP;CLGI;EPA;EPO;HCl
Species	Human
Expression Host	HEK293 Cells
Sequence	Cys 24-Ala 207
Accession	NP_003245.1
Calculated Molecular Weight	21 kDa
Observed molecular weight	26 kDa
Tag	None
Bioactivity	Measured by its ability to inhibit human MMP-2 cleavage of a fluorogenic peptide substrate MCA-PLGL-DPA-AR-NH ₂ (R&D Systems, Catalog # ES001). The IC ₅₀ value is < 6 nM.

Properties

Purity	> 97 % 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°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from sterile 20mM NaAC, 200mM NaCl, pH 5.5 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



> 97 % as determined by reducing SDS-PAGE.

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Background

TIMP metalloproteinase inhibitor 1, also known as TIMP-1/TIMP1, Collagenase inhibitor 16C8 fibroblast Erythroid-potentiating activity, TPA-S1TPA-induced protein Tissue inhibitor of metalloproteinases 1, is a natural inhibitors of the matrix metalloproteinases (MMPs), a group of peptidases involved in degradation of the extracellular matrix.

TIMP-1/TIMP1 is found in fetal and adult tissues. Highest levels are found in bone, lung, ovary and uterus. Complexes with metalloproteinases and irreversibly inactivates them by binding to their catalytic zinc cofactor. TIMP-1/TIMP1 mediates erythropoiesis in vitro; but, unlike IL-3, it is species-specific, stimulating the growth and differentiation of only human and murine erythroid progenitors. In addition to its inhibitory role against most of the known MMPs, the protein is able to promote cell proliferation in a wide range of cell types, and may also have an anti-apoptotic function.

Transcription of this protein encoding gene is highly inducible in response to many cytokines and hormones. In addition, the expression from some but not all inactive X chromosomes suggests that this gene inactivation is polymorphic in human females. This encoding gene is located within intron 6 of the synapsin I gene and is transcribed in the opposite direction. Complexes with metalloproteinases and irreversibly inactivates them by binding to their catalytic zinc cofactor. TIMP-1/TIMP1 is Known to act on MMP-1, MMP-2, MMP-3, MMP-7, MMP-8, MMP-9, MMP-10, MMP-11, MMP-12, MMP-13 and MMP-16.

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