

Active Recombinant Rat Timp1 protein, His-tagged

Cat. No. Timp1-2790R **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Active Recombinant Rat Timp1 protein(P30120)(24~217 aa), fused with N-terminal His tag, was expressed in E.coli.
Species	Rat
Source	E.coli
ProteinLength	24-217 aa
Form	Lyophilized from sterile PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
Bio-activity	Tissue inhibitors of metalloproteinase 1 (TIMP1) is a member of the family of proteins that regulate the activation and proteolytic activity of the zinc enzymes known as matrix metalloproteinases (MMPs). TIMP-1 is a glycoprotein with a molecular mass of 28 kDa produced by a wide range of cell types. TIMP-1 inhibits active MMP-mediated proteolysis by forming an N-terminal, non-covalent binary complex with the MMP active site. The activity of recombinant rat TIMP1 was measured by its ability to inhibit rhMMP 2 cleavage of a fluorogenic peptide substrate MCA-Pro-Leu-Gly-Leu-DPA-Ala-Arg-NH₂ in the assay buffer 50 mM Tris, 10 mM CaCl₂, 150 mM NaCl, 0.05% (w/v) Brij-35, pH 7.5. rhMMP2 was diluted to 100 ug/ml and activated with 1 mM APMA at 37°C for 1 hour and rrTIMP1 (MW: 22.2 KD) was diluted to different concentrations with the assay buffer. Mix 8 µl of rrTIMP1 curve dilutions, 12.8 µl of activated rhMMP-2, and 59.2 µl of assay buffer, including a control containing assay buffer and the diluted rhMMP-2 and

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incubate the reactions for 2 hours at 37°C. Loading 50 µl of the incubated mixtures which were diluted five-fold in assay buffer into empty wells of a plate, and start the reaction by adding 50 µl of 20 µM substrate. Include a substrate blank containing 50 µl of assay buffer and 50 µl of 20 µM substrate. Then read at excitation and emission wavelengths of 320 nm and 405 nm, respectively, in kinetic mode for 5 minutes. The result was shown and it was obvious that recombinant rat TIMP1 significantly decreased rhMMP2 activity. The inhibition IC₅₀ was <65 nM.

Molecular Mass	22.8kDa
Endotoxin	<1.0EU per 1µg (determined by the LAL method).
Purity	> 95% as determined by SDS-PAGE.
Storage	Avoid repeated freeze/thaw cycles. Store at -20°C for 12 months. Aliquot and store at -80°C for 12 months.
Reconstitution	Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

GENE INFORMATION

Gene Name	Timp1 TIMP metalloproteinase inhibitor 1 [Rattus norvegicus]
Official Symbol	Timp1
Synonyms	TIMP1; TIMP metalloproteinase inhibitor 1; metalloproteinase inhibitor 1; tissue inhibitor of metalloproteinase 1; tissue inhibitor of metalloproteinase 1; tissue inhibitor of metalloproteinases 1; Timp; TIMP-1;
Gene ID	116510

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mRNA Refseq	NM_053819
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Protein Refseq	NP_446271
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