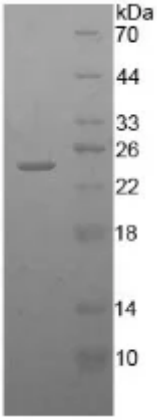
Active Tissue Inhibitors Of Metalloproteinase 4 (TIMP4)

Catalog#:PEH12225

概述（Summary）

别称（Alternative Names）	TIMP Metallopeptidase Inhibitor 4; Tissue Inhibitor of Metalloproteinases 4
纯度（Purity）	Greater than 90% as determined by reducing SDS-PAGE.
内毒素（Endotoxin level）	Please contact with the lab for this information
蛋白构建（Construction）	【Cys32-Pro224】
Accession #	Q99727
表达宿主（Host）	E.coli
种属（Species）	Homo sapiens (Human)
预测分子量（Predicted MW）	23.5 kDa
制剂（Form）	Lyophilized from a 0.2 μm filtered solution of 20mM Tris, 150mM NaCl, pH8.0, containing 1mM EDTA, 1mM DTT, 0.01% SKL, 5% Trehalose and Proclin300.
运输方式（Shipping）	The product is shipped with ice bag. Upon receipt, store it immediately at the temperature listed below.
稳定性&储存（Stability &Storage）	12 months at -20°C to -80°C in lyophilized state.6 months at -20°C to -80°C under sterile conditions after reconstitution.7-10 days at 2°C to 8°C under sterile conditions after reconstitution.Please minimize freeze-thaw cycles.
复溶（Reconstitution）	Reconstitute in 20mM Tris, 150mM NaCl (PH8.0) to a concentration of 0.1-1.0 mg/mL. Do not vortex.
背景介绍（References）	Complexes with metalloproteinases (such as collagenases) and irreversibly inactivates them by binding to their catalytic zinc cofactor. Known to act on MMP-1, MMP-2, MMP-3, MMP-7 and MMP-9.

电泳图（SDS-PAGE image）



Greater than 90% as determined by reducing SDS-PAGE.

活性图（Bioactivity image）

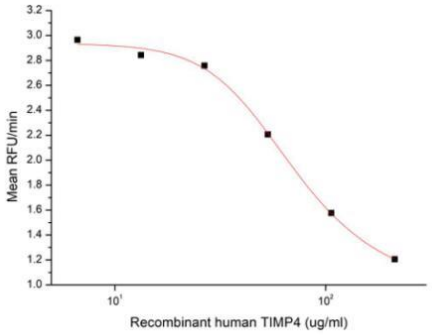
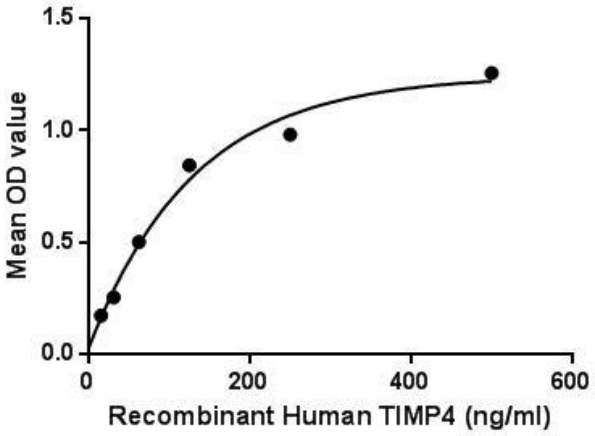


Figure 2. Inhibition of MMP2 activity by recombinant human TIMP4

Tissue Inhibitors Of Metalloproteinase 4 (TIMP4) is an enzyme that in humans is encoded by the TIMP4 gene. This gene belongs to the tissue inhibitor of metalloproteinases gene family. The proteins encoded by this gene family are inhibitors of the matrix metalloproteinases, a group of peptidases involved in degradation of the extracellular matrix. The secreted, netrin domain-containing protein encoded by this gene is involved in regulation of platelet aggregation and recruitment and may play role in hormonal regulation and endometrial tissue remodeling. Besides, Matrix Metalloproteinase 2 (MMP2) has been identified as an interactor of TIMP4, thus a binding ELISA assay was conducted to detect the interaction of recombinant human TIMP4 and recombinant human MMP2. Briefly, TIMP4 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100µL were then transferred to MMP2-coated microtiter wells and incubated for 2h at 37℃. Wells were washed with PBST and incubated for 1h with anti-TIMP4 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody, wells were aspirated and washed 3 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50µL stop solution to the wells and read at 450nm immediately. The binding activity of TIMP4 and MMP2 was shown in Figure 1, and this effect was in a dose dependent manner. The activity of recombinant human TIMP4 was also measured by its ability to inhibit rhMMP2 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 rhTIMP2 (MW: 51.75 KD) was diluted to different concentrations with the assay buffer. Mix 8 µl of rhTIMP2 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 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

excitiation and emission wavelengths of 320 nm and 405 nm, respectively, in kinetic mode for 5 minutes. The result was shown in Figure 1 and it was obvious that recombinant human TIMP4 significantly decreased rhMMP2 activity. The inhibition IC50 was <70 nM.



注意事项（Note）

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