



# Recombinant Protein Technical Manual

## Recombinant Rat TIMP/TIMP1 Protein (Active)

RPES1109

### Product Data:

**Product SKU:** RPES1109

**Size:** 10µg

**Species:** Rat

**Expression host:** HEK293 Cells

**Uniprot:** P01860

### Protein Information:

**Molecular Mass:** 21.5 kDa

**AP Molecular Mass:** 28 kDa

#### Tag:

**Bio-activity:** Measured by its ability to inhibit human MMP2 cleavage of a fluorogenic peptide substrate MCA-PLGLDPA-AR-NH<sub>2</sub>, AnaSpec Catalog # 27076. The IC<sub>50</sub> value is approximately 4 nM.

**Purity:** > 97 % as determined by SDS-PAGE

**Endotoxin:** < 1.0 EU per µg of the protein as determined by the LAL method

**Storage:** 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 50mM Tris, 100mM NaCl, pH 7.0.

**Reconstitution:** Please refer to the printed manual for detailed information.

#### Application:

**Synonyms:** TIMP1;Timp

## Immunogen Information:

**Sequence:** Met1-Ala217

## Background:

TIMP metalloproteinase inhibitor 1, also known as TIMP/TIMP1, Collagenase inhibitor 16C8 fibroblast Erythroid-potentiating activity, TPA-S1TPA-induced protein Tissue inhibitor of metalloproteinases 1, is a natural inhibitor of the matrix metalloproteinases (MMPs), a group of peptidases involved in degradation of the extracellular matrix. TIMP/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/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/TIMP1 is Known to act on MMP, MMP-2, MMP-3, MMP-7, MMP-8, MMP-9, MMP0, MMP1, MMP2, MMP3 and MMP6.