

Recombinant Mouse TIMP3 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51402

Size: 10ug, 100ug

Protein Name: Metalloproteinase inhibitor 3 (Tissue inhibitor of metalloproteinases 3) (TIMP-3)

Synonym: Timp3, Sun, Timp-3

UniProt ID: P39876

UniProt Link: www.uniprot.org/uniprotkb/P39876/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 211 AA

Molecular Weight: 24 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MTPWLGLVLLSCWSLGHWGAEACTCSPSHPQDAFCNSDIVIRAKVVGKKLVKEGPFGLVYTIKQ
MKMYRGFSKMPHVQYIHTEASESLCGLKLEVNKYQYLLTGRVYEGKMYTGLCNFVERWDHLTSLQ
RKGLNYRYHLGCNCKIKSCYYLPCFVTSKNECLWTDMLSNFGYPGYQSKHYACIRQKGGYCSWYR
GWAPPDKSISNATDP

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Metalloproteinase inhibitor 3 (Tissue inhibitor of metalloproteinases 3) (TIMP-3) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Mediates a variety of processes including matrix regulation and turnover, inflammation, and angiogenesis, through reversible inhibition of zinc protease superfamily enzymes, primarily matrix metalloproteinases (MMPs) (PubMed:15322543, PubMed:21282576). Regulates extracellular matrix (ECM) remodeling through inhibition of matrix metalloproteinases (MMP) including MMP-1, MMP-2, MMP-3, MMP-7, MMP-9, MMP-13, MMP-14 and MMP-15. Additionally, modulates the processing of amyloid precursor protein (APP) and apolipoprotein E receptor ApoER2 by inhibiting two alpha-secretases ADAM10 and ADAM17. Functions as a tumor suppressor and a potent inhibitor of angiogenesis. Exerts its anti-angiogenic effect by directly interacting with vascular endothelial growth factor (VEGF) receptor-2/KDR, preventing its binding to the VEGFA ligand. Selectively induces apoptosis in angiogenic endothelial cells through a caspase-independent cell death pathway. Mechanistically, inhibits matrix-induced focal adhesion kinase PTK2 tyrosine phosphorylation and association with paxillin/PXN and disrupts the incorporation of ITGB3, PTK2 and PXN into focal adhesion contacts on the matrix.

Subcellular Localization: Secreted, extracellular space, extracellular matrix .

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.