

DESCRIPTION

Species Reactivity	Human/Mouse
Specificity	Detects human and mouse TIMP-4 in direct ELISAs and Western blots. In direct ELISAs, less than 2% cross-reactivity with recombinant human (rh) TIMP-1, rhTIMP-2, and rhTIMP-3 is observed. In sandwich immunoassays, this antibody is specific for mouse TIMP-4 when paired with the suggested capture antibody.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human TIMP-4 Cys30-Pro224 Accession # Q99727
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Human TIMP-4 (Catalog # 974-TSF) and Recombinant Mouse TIMP-4 (Catalog # 7667-TM)
ELISA	This antibody functions as an ELISA detection antibody when paired with Rat Anti-Mouse TIMP-4 Monoclonal Antibody (Catalog # MAB7667). In sandwich immunoassays, this antibody is specific for mouse TIMP-4 when paired with the suggested capture antibody. <i>This product is intended for assay development on various assay platforms requiring antibody pairs. We recommend the Mouse TIMP-4 DuoSet ELISA Kit (Catalog # DY7667-05) for convenient development of a sandwich ELISA.</i>	

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Tissue inhibitors of metalloproteinases (TIMPs) are a family of secreted proteins that regulate the activation and proteolytic activity of the zinc enzymes known as matrix metalloproteinases (MMPs). There are four known members of the family, TIMP-1, -2, -3, and -4. TIMP-4 is produced by a wide range of tissues, particularly brain, heart, ovary and skeletal muscle (1, 2). Limited studies have shown that TIMP-4 has a tumor suppressive effect against Wilm's tumor, exhibits negative correlation with glioma malignancy and is found in breast carcinoma cells (3-5). TIMP-4 inhibits MMP-mediated proteolysis by forming a non-covalent binary complex with the MMP active site through its N-terminal domain. In addition, it binds to the hemopexin-like domain of pro-MMP-2 through its C-terminal domain in a manner similar to TIMP-2 (6). However, unlike TIMP-2, TIMP-4 does not promote pro-MMP-2 activation by MT1-MMP (MMP-14) (7). Although TIMP-4 is a potent inhibitor of most MMPs, it is not an effective inhibitor of ADAMs, such as TACE (8, 9). Human TIMP-4 shares 89% sequence identity with Mouse TIMP-4.

References:

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5. Hurst, *et al.* (2001) *Biochem. Biophys. Res. Comm.* **281**:166.
6. Bigg, *et al.* (1997) *J. Biol. Chem.* **272**:15496.
7. Hernandez-Barrantes, *et al.* (2001) *Biochem. Biophys. Res. Comm.* **281**:126.
8. Amour, *et al.* (1998) *FEBS Lett.* **435**:39.
9. Liu, *et al.* (1997) *J. Biol. Chem.* **272**:20479.