

## DESCRIPTION

<b>Species Reactivity</b>	Human/Mouse
<b>Specificity</b>	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.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human TIMP-4 Cys30-Pro224 Accession # Q99727
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied 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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	0.1 µg/mL	Recombinant Human TIMP-4 (Catalog # 974-TSF) and Recombinant Mouse TIMP-4 (Catalog # 7667-TM)

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## 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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7. Hernandez-Barrantes, *et al.* (2001) *Biochem. Biophys. Res. Comm.* **281**:126.
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9. Liu, *et al.* (1997) *J. Biol. Chem.* **272**:20479.