

BACKGROUND

TIMP-1 is a 28.5 kDa glycoprotein that forms non-covalent 1:1 stoichiometric complexes with MMPs, thereby inhibiting the proteolytic activity of these enzymes. It is a member of the TIMP family, currently comprising four members (TIMP-1, -2, 3- and -4), which exhibit approximately 50% sequence similarity, is expressed by a wide range of cells and is present in most tissues and body fluids.¹ Common to all members of the TIMP family is the presence of 12 cysteine residues in conserved regions forming six disulfide bonds that fold the protein into a two-domain structure. The presence of a large number of disulfide bonds renders the TIMP molecules resistant to extremes of temperature and pH, and denaturing conditions. High levels of TIMP-1 mRNA as well as TIMP-1 protein have been demonstrated in several types of cancer, including breast cancer, and this has been associated with a poor prognosis of the patients.² The association between high levels of protease inhibitor and poor prognosis may be somewhat surprising, as proteolytic activity plays a pivotal role in cancer cell invasion and metastasis. This paradox points to TIMP-1 as a multifunctional protein, which in addition to the MMP-inhibitory effect has distinct tumor-promoting functions. It has been shown that TIMP-1 can mediate growth promotion and anti-apoptotic effects as well as both anti- and pro-angiogenic functions.³

References:

1. Gomez, D.E.: Eur J Cell Biol. 74:111-22, 1997
2. Gardner, J. & Ghorpade, A.: J. Neurosci. Res. 74:801-6, 2003
3. Rhee, J-S. et al: Cancer Res. 64:952-61, 2004

TECHNICAL INFORMATION

Source: Anti-TIMP-1 is a rabbit polyclonal antibody raised against a synthetic peptide mapping at the C-terminal of rat TIMP-1 different from the related sequence by two amino acids.

Specificity and Sensitivity: Anti-TIMP1 reacts specifically with TIMP-1 of human, mouse & rat origin in immunohistochemistry and western blotting procedures, no cross-reactivity with other members of the TIMP family.

Storage Buffer: PBS and 30% glycerol

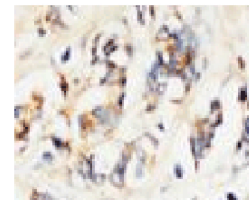
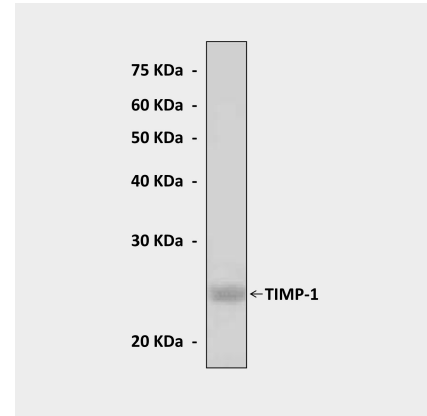
Storage: Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

APPLICATIONS

Application:	*Dilution:
WB	1:500 – 1:1000
IP	n/d
IHC	1:50 – 1:200
ICC	n/d
FACS	n/d

**Optimal dilutions must be determined by end user.*

QUALITY CONTROL DATA



Top: Detection of TIMP-1 from rat kidney tissue lysate in Western blot assay, using Anti-TIMP-1. **Bottom:** Immunohistochemical staining of paraffin-embedded human breast cancer tissue, using Anti-TIMP-1.

