

**DESCRIPTION**

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human TIM-1/KIM-1/HAVCR in direct ELISAs and Western blots. Does not cross-react with recombinant mouse (rm) TIM-1, rmTIM-2, or rhTIM-3.
<b>Source</b>	Monoclonal Mouse IgG <sub>2B</sub> Clone # 219211
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human TIM-1/KIM-1/HAVCR Ser21-Thr288 Accession # AAC39862
<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.

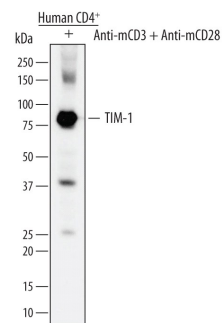
**APPLICATIONS**

**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>	1 µg/mL	See Below
<b>Flow Cytometry</b>	2.5 µg/10 <sup>6</sup> cells	See Below
<b>Immunohistochemistry</b>	8-25 µg/mL	See Below
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

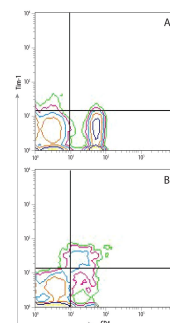
**DATA**

**Western Blot**



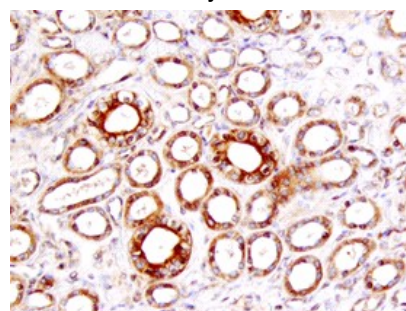
**Detection of Human TIM-1/KIM-1/HAVCR by Western Blot.** Western blot shows lysates of human CD4<sup>+</sup> cells treated (+) with 5 µg/mL of Hamster Anti-Mouse CD3ε Monoclonal Antibody (Catalog # [MAB484](#)) and 1 µg/mL of Rat Anti-Mouse CD28 Monoclonal Antibody (Catalog # [MAB4831](#)) for 24 hours. PVDF membrane was probed with 1 µg/mL of Mouse Anti-Human TIM-1/KIM-1/HAVCR Monoclonal Antibody (Catalog # MAB1750) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # [HAF007](#)). A specific band was detected for TIM-1/KIM-1/HAVCR at approximately 80 kDa (as indicated). This experiment was conducted under reducing conditions and using *Immunoblot Buffer Group 1*.

**Flow Cytometry**



**Detection of TIM-1/KIM-1/HAVCR in Th2-stimulated Human PBMCs by Flow Cytometry.** (A) Unstimulated and (B) Th2-stimulated human PBMCs were stained with Mouse Anti-Human TIM-1/KIM-1/HAVCR Monoclonal Antibody (Catalog # MAB1750) followed by Allophycocyanin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # [F0101B](#)) and Human CD4 PerCP-conjugated Monoclonal Antibody (Catalog # [FAB3791C](#)). Quadrant markers were set based on control antibody staining (Catalog # [MAB0041](#)).

**Immunohistochemistry**



**TIM-1/KIM-1/HAVCR in Human Kidney.** TIM-1/KIM-1/HAVCR was detected in immersion fixed paraffin-embedded sections of human kidney using 25 µg/mL Mouse Anti-Human TIM-1/KIM-1/HAVCR Monoclonal Antibody (Catalog # MAB1750) overnight at 4 °C. Tissue was stained with the Anti-Mouse HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # [CTS002](#)) and counterstained with hematoxylin (blue). View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.5 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

TIM-1 (T cell-immunoglobulin-mucin; also KIM-1 and HAVcr-1) is a 100 kDa, type I transmembrane glycoprotein member of the TIM family of immunoglobulin superfamily molecules (1-3). This gene family is involved in the regulation of Th1 and Th2-cell-mediated immunity. Human TIM-1 is synthesized as a 359 amino acid (aa) precursor that contains a 20 aa signal sequence, a 270 aa extracellular domain (ECD), a 21 aa transmembrane segment and a 48 aa cytoplasmic domain (4-6). The ECD contains one V-type Ig-like domain and a mucin region characterized by multiple PTTTTL motifs. The mucin region undergoes extensive O-linked glycosylation. The TIM-1 gene is highly polymorphic and undergoes alternate splicing (1). For instance, the presence of a six aa sequence (MTTTPV) at position #137 of the mature molecule is associated with protection from atopy in people with a history of hepatitis A (7, 8). There are two cytoplasmic alternate splice forms of TIM-1. One is a long (359 aa) kidney form termed TIM-1b, and one is a short (334 aa) liver form termed TIM-1a. Both are identical through the first 323 aa of their precursors. TIM-1b contains a tyrosine phosphorylation motif that is not present in 1a (6). TIM-1 is also known to circulate as a soluble form. Constitutive cleavage by an undefined MMP (possibly ADAM33) releases an 85 - 90 kDa soluble molecule (6). The ECD of human TIM-1 is 50% and 43% aa identical to mouse and canine TIM-1 ECD, respectively. The only two reported ligands for TIM-1 are TIM-4 and the hepatitis A virus (4, 9). However, others are believed to exist, and based on the ligand for TIM-3, one may well be an S-type lectin (10). TIM-1 ligation induces T cell proliferation and promotes cytokine production (1, 10).

## References:

1. Meyers, J.H. *et al.* (2005) Trends Mol. Med. **11**:1471.
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3. Mariat, C. *et al.* (2005) Phil. Trans. R. Soc. B **360**:1681.
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5. Ichimura, T. *et al.* (1998) J. Biol. Chem. **273**:4135.
6. Bailly, V. *et al.* (2002) J. Biol. Chem. **277**:39739.
7. Umetsu, D.T. *et al.* (2005) J. Pediatr. Gastroenterol. Nutr. **40**:S43.
8. Gao, P-S. *et al.* (2005) J. Allergy Clin. Immunol. **115**:982.
9. Zhu, C. *et al.* (2005) Nat. Immunol. **6**:1245.
10. Meyers, J.H. *et al.* (2005) Nat. Immunol. **6**:455.

## PRODUCT SPECIFIC NOTICES

This product is covered by one or more of the following US Patents 7,300,652; 7,041,290; 6,664,385 and other US and foreign patents pending or issued.