

DESCRIPTION

| | |
|---------------------------|--|
| Species Reactivity | Human |
| Specificity | 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. |
| Source | Monoclonal Mouse IgG _{2B} Clone # 219211 |
| Purification | Protein A or G purified from hybridoma culture supernatant |
| Immunogen | Mouse myeloma cell line NS0-derived recombinant human TIM-1/KIM-1/HAVCR Ser21-Thr288 Accession # AAC39862 |
| Conjugate | Alexa Fluor 750 Excitation Wavelength: 749 nm Emission Wavelength: 775 nm |
| Formulation | Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |

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 |
|-----------------------|---------------------------------|-----------------------------|
| Flow Cytometry | 0.25-1 µg/10 ⁶ cells | Stimulated Human CD4+ cells |

PREPARATION AND STORAGE

| | |
|--------------------------------|--|
| Shipping | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| Stability & Storage | Protect from light. Do not freeze. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied. |

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 (MTTVP) 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:

- Meyers, J.H. *et al.* (2005) *Trends Mol. Med.* **11**:1471.
- Kuchroo, V.K. *et al.* (2003) *Nat. Rev. Immunol.* **3**:454.
- Mariat, C. *et al.* (2005) *Phil. Trans. R. Soc. B* **360**:1681.
- Feigelstock, D. *et al.* (1998) *J. Virol.* **72**:6621.
- Ichimura, T. *et al.* (1998) *J. Biol. Chem.* **273**:4135.
- Bailly, V. *et al.* (2002) *J. Biol. Chem.* **277**:39739.
- Umetsu, D.T. *et al.* (2005) *J. Pediatr. Gastroenterol. Nutr.* **40**:S43.
- Gao, P-S. *et al.* (2005) *J. Allergy Clin. Immunol.* **115**:982.
- Zhu, C. *et al.* (2005) *Nat. Immunol.* **6**:1245.
- 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.

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.