Human TIM-1/KIM-1/HAVCR Antibody

Monoclonal Mouse IgG_{2B} Clone # 219211

Catalog Number: MAB1750

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
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 as a 0.2 μm filtered solution in PBS.

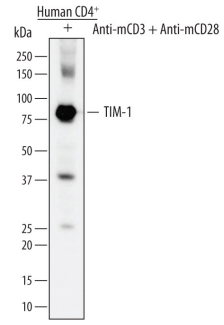
APPLICATIONS

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	1 µg/mL	See Below
Flow Cytometry	2.5 µg/10^6 cells	See Below
Immunohistochemistry	8-25 µg/mL	See Below

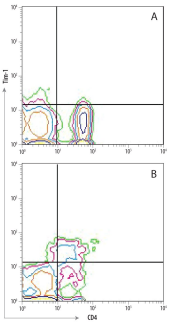
DATA

Western Blot



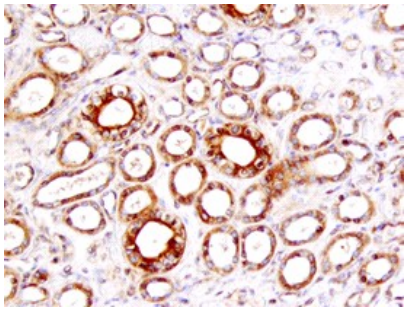
Detection of Human TIM-1/KIM-1/HAVCR by Western Blot. Western blot shows lysates of human $CD4^+$ cells treated (+) with 5 µg/mL of Hamster Anti-Mouse CD3ε Monoclonal Antibody (Catalog # MAB484) and 1 µg/mL of Rat Anti-Mouse CD28 Monoclonal Antibody (Catalog # MAB4831) for 24 hours. PVDF membrane was 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 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 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

Reconstitution	Reconstitute at 0.5 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.** ● 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.

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BACKGROUND

TIM-1 (**T** cell-**i**mmunoglobulin-**m**ucin; 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 oneV-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 (MTTTVP) 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:

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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.