

DESCRIPTION

Species Reactivity	Rat
Specificity	Detects rat TIM-1/KIM-1/HAVCR in ELISAs. In sandwich immunoassays, no cross-reactivity or interference with recombinant mouse (rm) TIM-1, rmTIM-3, rmTIM-4, recombinant human (rh) TIM-1, rhTIM-4, or rhNkp44 is observed.
Source	Monoclonal Mouse IgG ₁ Clone # 511227
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse Myeloma cell line NS0-derived recombinant rat TIM-1/KIM-1/HAVCR Ser18-Val238 Accession # O54947
Conjugate	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide
*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.

ELISA Capture (Matched Antibody Pair) Optimal dilution of this antibody should be experimentally determined.

ELISA Detection (Matched Antibody Pair) Optimal dilution of this antibody should be experimentally determined.

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. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

TIM-1, also known as KIM-1 (Kidney-injury molecule-1) and HAVCR, is a 50-80 kDa, variably glycosylated, type I transmembrane glycoprotein that is a member of the TIM family of immunoglobulin superfamily molecules (1-5). This gene family is involved in the regulation of Th1 and Th2-cell-mediated immunity. In mouse, there are eight known TIM/KIM genes (# 1-8) vs. only three genes in human (# 1, 3, 4) (1, 2, 5). It is unknown if the rat genome exactly parallels that of mouse. Rat TIM-1 is synthesized as a 307 amino acid (aa) precursor that contains a 21 aa signal sequence, a 214 aa extracellular domain (ECD), a 21 aa transmembrane segment and a 51 aa cytoplasmic domain (4). The ECD contains one V-type Ig-like domain and a mucin region characterized by multiple Thr-Ser-Pro motifs. The mucin region may undergo extensive O-linked glycosylation. The mouse TIM-1 gene is highly polymorphic and this may be reflected in rat (4, 6). In human, TIM-1 is known to circulate as a soluble form. It undergoes constitutive cleavage by an undefined MMP, releasing an 85 kDa soluble molecule (7). A similar process has now been described in rat (8). The ECD of rat TIM-1 is 50% and 81% aa identical to human and mouse TIM-1 ECD, respectively. The only two reported ligands for TIM-1 are TIM-4 and the hepatitis A virus (9, 10). However, others are believed to exist, and based on the ligand for TIM-3, one might be an S-type lectin (11). TIM-1 is found on CD4⁺ T cells and proximal renal tubular cells (4, 12). TIM-1 ligation induces T cell proliferation and promotes cytokine production (1, 11). In particular, it induces IL-4 production, and requires the TIM-1 cytoplasmic tyrosine phosphorylation motif (12). Alternatively, TIM-1 activation of TIM-4 induces cell cycle arrest (13).

PRODUCT SPECIFIC NOTICES

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