Rat TIM-1/KIM-1/HAVCR Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF3689

DESCRIPTION

Species Reactivity	Rat
Specificity	Detects rat TIM-1/KIM-1/HAVCR in direct ELISAs and Western blots. In direct ELISAs, approximately 5% cross-reactivity with recombinant mouse (rm) TIM-1 is observed, and less than 1% cross-reactivity with recombinant human TIM-1, recombinant rat TIM-2, rmTIM-3, rmTIM-4, rmTIM-6, and rmTIM-7 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant rat TIM-1/KIM-1/HAVCR Ser18-Val238 Accession # O54947
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.

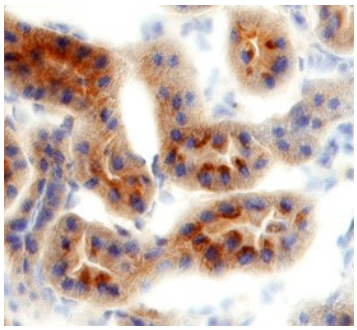
APPLICATIONS

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	0.1 µg/mL	Recombinant Rat TIM-1/KIM-1/HAVCR (Catalog # 3689-TM)
Immunohistochemistry	5-15 µg/mL	See Below

DATA

Immunohistochemistry



TIM-1/KIM-1/HAVCR in Rat Kidney. TIM-1/KIM-1/HAVCR was detected in perfusion fixed frozen sections of rat kidney using 15 µg/mL Rat TIM-1/KIM-1/HAVCR Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3689) overnight at 4 °C. Tissue was stained with the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 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.

BACKGROUND

KIM-1 (Kidney-injury molecule-1; also TIM-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. 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). It is unknown if the rat genome exactly parallels that of mouse. Rat KIM-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. 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 KIM-1 gene is highly polymorphic and this may be reflected in rat. 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. A similar process has now been described in rat. The ECD of rat KIM-1 is 50% and 81% aa identical to human and mouse KIM-1 ECD, respectively. The only two reported ligands for KIM-1 are TIM-4 and the hepatitis A virus. However, others are believed to exist, and based on the ligand for TIM-3, one might be an S-type lectin. KIM-1 is found on $CD4^+$ T cells and proximal renal tubular cells. KIM-1 ligation induces T cell proliferation and promotes cytokine production. In particular, it induces IL-4 production, and requires the KIM-1 cytoplasmic tyrosine phosphorylation motif. Alternatively, KIM-1 activation of TIM-4 induces cell cycle arrest.

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.

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