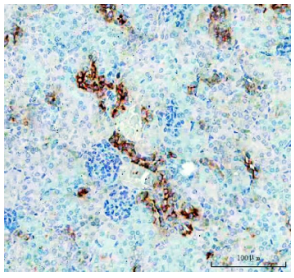
TIM-1 Antibody / KIM-1 / HAVCR1 (R30715)

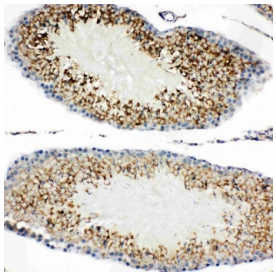
Catalog No.	Formulation	Size
R30715	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

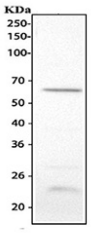
Availability	1-3 business days
Species Reactivity	Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	O54947
Localization	Cytoplasm, cell membrane
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml
Limitations	This TIM-1 antibody is available for research use only.



Immunohistochemical staining using TIM-1 antibody on FFPE rat kidney tissue sections. Heat-induced epitope retrieval was performed using EDTA buffer (pH 8.0) prior to antibody incubation. TIM-1 antibody shows strong membranous and cytoplasmic staining in renal tubular epithelial cells, consistent with expression of T cell immunoglobulin and mucin domain-containing protein 1 in kidney tissue. Detection was performed using an HRP-conjugated secondary antibody with DAB as the chromogen, and nuclei were counterstained with hematoxylin.



Immunohistochemical staining using TIM-1 antibody on FFPE rat testis tissue sections. Sections were subjected to heat-induced epitope retrieval by steam treatment in pH 6 citrate buffer for 20 minutes prior to antibody incubation. TIM-1 antibody shows cytoplasmic and membranous staining in seminiferous tubule-associated cells, consistent with expression of T cell immunoglobulin and mucin domain-containing protein 1 in testicular tissue. Nuclei were counterstained with hematoxylin.



Western blot analysis using TIM-1 antibody. Lane 1: rat kidney tissue lysate. The predicted molecular weight of TIM-1 (HAVCR1 / KIM-1) is ~34 kDa, while TIM-1 antibody detects a prominent band at ~60 kDa on SDS-PAGE, consistent with the mature, glycosylated form of this type I transmembrane glycoprotein and previously reported migration of KIM-1 near this size range.

Description

TIM-1 antibody targets T cell immunoglobulin and mucin domain containing protein 1, also widely known as Kidney injury molecule 1 (KIM-1) and encoded by the HAVCR1 gene. TIM-1 is a type I transmembrane glycoprotein with an extracellular immunoglobulin V-like domain and a mucin-rich region, localized primarily to the plasma membrane. Under normal physiological conditions, TIM-1 expression in kidney tissue is low, but it is strongly induced in proximal tubular epithelial cells following renal injury, making it a well-established marker of kidney damage.

Functionally, T cell immunoglobulin and mucin domain containing protein 1 participates in epithelial cell injury responses, phagocytosis of apoptotic debris, and immune modulation. TIM-1 has been shown to act as a scavenger receptor that recognizes phosphatidylserine on apoptotic cells, facilitating clearance and tissue repair processes. In immune cells, TIM-1 can influence T cell activation and cytokine production, linking tissue injury signals with immune regulation. A TIM-1 antibody supports studies focused on renal injury mechanisms and immune signaling.

TIM-1 expression is most prominently associated with injured kidney epithelium, but it is also detected in activated immune cells, including subsets of T lymphocytes. Its inducible expression pattern reflects a role in sensing cellular stress and damage rather than maintaining baseline tissue function. TIM-1 can interact with multiple ligands and signaling partners, enabling it to participate in pathways that regulate inflammation, tissue remodeling, and immune responses following injury.

From a disease-relevance perspective, TIM-1, also referred to as KIM-1, is extensively studied as a biomarker for acute kidney injury and chronic kidney disease. Elevated TIM-1 expression correlates with tubular damage and disease severity, and it has been investigated in toxicological studies, ischemia-reperfusion injury, and drug-induced nephrotoxicity. Beyond renal disease, TIM-1 has also been explored in inflammatory disorders and cancer biology, where its immune regulatory functions may contribute to disease progression.

At the molecular level, T cell immunoglobulin and mucin domain containing protein 1 contains conserved structural domains that support ligand binding and signal transduction. Glycosylation of the mucin domain can influence apparent migration behavior on SDS-PAGE without implying changes in primary sequence. TIM-1 antibody reagents support research applications focused on kidney injury, epithelial stress responses, and immune regulation, with NSJ Bioreagents providing reagents intended for research use.

Application Notes

Titration of the TIM-1 antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

Amino acids 289-307 (HPRAEDNIYIIEDRSRGAE-rat) were used as the immunogen for this TIM-1 antibody.

Storage

The lyophilized TIM-1 antibody can be stored at 4oC to -20oC. After reconstitution, aliquot and store at -20oC. Avoid repeated freezing and thawing.

References (2)

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