

PRODUCT INFORMATION

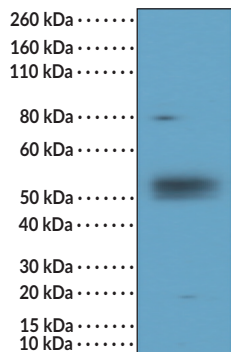
TIM-3 Rabbit Monoclonal Antibody (Clone RM448)

Item No. 35809

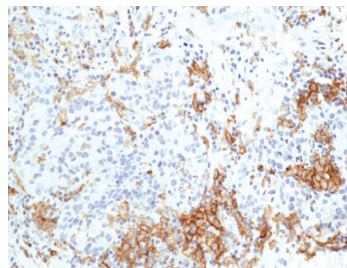
Overview and Properties

Contents:	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
Synonyms:	CD366, Hepatitis A Virus Cellular Receptor 2 Precursor, KIM-3, T Cell Immunoglobulin and Mucin Domain-containing Protein 3, T Cell Immunoglobulin Mucin Receptor 3, T Cell Membrane Protein 3, TIMD-3
Immunogen:	Recombinant human TIM-3 protein
Cross Reactivity:	(+) TIM-3
Species Reactivity:	(+) Human
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Clone:	RM448
Host:	Rabbit
Isotype:	IgG
Applications:	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution is 1:100-1:200 for IHC and 1:1,000-1:2,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

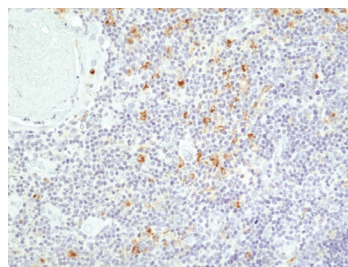
Images



WB of Daudi cell lysates using TIM-3 Rabbit Monoclonal Antibody (Clone RM448) at a dilution of 1:1,000.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human lung cancer tissue using TIM-3 Rabbit Monoclonal Antibody (Clone RM 448) at a dilution of 1:200.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human thymus tissue using TIM-3 Rabbit Monoclonal Antibody (Clone RM448) at a dilution of 1:200.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

TIM-3 is a member of the T-cell immunoglobulin and mucin-domain containing (TIM) protein family of immunoregulatory proteins and is encoded by the *HAVCR2* gene in humans.¹ It is a transmembrane protein composed of an N-terminal immunoglobulin variable (IgV) domain, as well as mucin stalk, transmembrane, and C-terminal cytoplasmic tail domains. The IgV domain contains cysteine residues that form non-canonical intramolecular disulfide bonds resulting in a cleft and channel not found in non-TIM immunoglobulin domains that is important for non-canonical ligand binding.² TIM-3 is expressed primarily on T cells but is also expressed on other immune cells such as natural killer and dendritic cells.³ The TIM-3 ligand galectin 9 (Item No. 32012), located on immune or tumor cells, binds to glycosylated sites of the IgV and mucin stalk domains and induces TIM-3 oligomerization to activate downstream signaling that impairs immune synapse formation and leads to T cell anergy or apoptosis.¹ The TIM-3 IgV cleft domain binds non-canonical ligands, such as phosphatidylserine on apoptotic cells or CEACAM1 on antigen-presenting or tumor cells.¹⁻³ TIM-3 is an inhibitory co-receptor that helps maintain immune tolerance but, when expressed on certain cells during chronic infection or cancer, can lead to immune exacerbation.³ Inhibition of the TIM-3 pathway by Tim-3 fusion or extracellular domain-only proteins prevents the induction of immune tolerance in a mouse islet allograft model or increases weight loss and tissue injury in a mouse model of TNBS-induced colitis, respectively.^{4,5} Expression of TIM-3 is decreased in patients with autoimmune diseases, including ulcerative colitis.^{1,6} TIM-3 is expressed on tumor-infiltrating T cells and expressed on a higher proportion of regulatory T cells from cancer patients.¹ Its overexpression on T cells increases tumor progression in an EL4 mouse model of lymphoma, while TIM-3 inhibition decreases tumor growth in a mouse model of head and neck cancer. SNPs in *HAVCR2* are associated with allergic diseases, immunity, and cancer. Cayman's TIM-3 Rabbit Monoclonal Antibody (Clone RM448) can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

References

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3. Tang, R., Rangachari, M., and Kuchroo, V.K. Tim-3: A co-receptor with diverse roles in T cell exhaustion and tolerance. *Semin. Immunol.* **42**, 101302 (2019).
4. Sabatos, C.A., Cakravarti, S., Cha, E., et al. Tim-3 inhibits T helper type 1-mediated auto- and alloimmune responses and promotes immunological tolerance. *Nat. Immunol.* **4**(11), 1093-1101 (2003).
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