abcam

ab47997

Anti-TIM-3/CD366 antibody

Key facts

Isotype	IgG
Host species	Goat
Storage buffer	pH: 7.3 Preservative: 0.02% Sodium azide Constituents: Tris buffered saline, 0.5% BSA
Form	Liquid
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Human HAVCR2 aa 200-250. The exact immunogen used to generate this antibody is proprietary information. Database link Q8TDQ0
Purification technique	Affinity purification Immunogen
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from goat serum by ammonium sulphate precipitation followed by antigen affinity chromatography using the immunizing peptide.

Reactivity data

WB

Tested

Species	Human
Dilution info	0.1-1 µg/mL
Notes	1 hour primary incubation is recommended for this product.

Predicted

Species	Dog, Primates
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	10 µg/mL
Notes	-

Predicted

Species	Dog, Primates
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	10 µg/mL
Notes	-

Predicted

Species	Dog, Primates
Dilution info	-
Notes	-

Target data

See full target information TIM-3/CD366

Function	Cell surface receptor implicated in modulating innate and adaptive immune responses. Generally accepted to have an inhibiting function. Reports on stimulating functions suggest that the activity may be influenced by the cellular context and/or the respective ligand (PubMed:24825777). Regulates macrophage activation (PubMed:11823861). Inhibits T-helper type 1 lymphocyte (Th1)-mediated auto- and alloimmune responses and promotes immunological tolerance (PubMed:14556005). In CD8+ cells attenuates TCR-induced signaling, specifically by blocking NF-kappaB and NFAT promoter activities resulting in the loss of IL-2 secretion. The function may implicate its association with LCK proposed to impair phosphorylation of TCR subunits, and/or LGALS9-dependent recruitment of PTPRC to the immunological synapse (PubMed:24337741, PubMed:26492563). In contrast, shown to activate TCR-induced signaling in T-cells probably implicating ZAP70, LCP2, LCK and FYN (By similarity). Expressed on Treg cells can inhibit Th17 cell responses (PubMed:24838857). Receptor for LGALS9 (PubMed:16286920, PubMed:24337741). Binding to LGALS9 is believed to result in suppression of T-cell responses; the resulting apoptosis of antigen-specific cells may implicate HAVCR2 phosphorylation and disruption of its association with BAG6. Binding to LGALS9 is proposed to be involved in innate immune response to intracellular pathogens. Expressed on Th1 cells interacts with LGALS9 expressed on Mycobacterium tuberculosis-infected macrophages to stimulate antibactericidal activity including IL-1 beta secretion and to restrict intracellular bacterial growth (By similarity). However, the function as receptor for LGALS9 has been challenged (PubMed:23555261). Also reported to enhance CD8+ T-cell responses to an acute infection such as by Listeria monocytogenes (By similarity). Receptor for phosphatidylserine (PtSer); PtSer-binding is calcium-dependent. May recognize PtSer on apoptotic cells leading to their phagocytosis. Mediates the engulfment of apoptotic cells by dendritic cells. Expressed on T-cells, promotes conjugation but not engulfment of apoptotic cells. Expressed on dendritic cells (DCs) positively regulates innate immune response and in synergy with Toll-like receptors promotes secretion of TNF. In tumor-imfiltrating DCs suppresses nucleic acid-mediated innate immune repsonse by interaction with HMGB1 and interfering with nucleic acid-sensing and trafficking of nucleid acids to endosomes (By similarity). Expressed on natural killer (NK) cells acts as a coreceptor to enhance IFN-gamma production in response to LGALS9 (PubMed:22323453). In contrast, shown to suppress NK cell-mediated cytotoxicity (PubMed:22383801). Negatively regulates NK cell function in LPS-induced endotoxic shock (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	TIM-3 also known as T cell immunoglobulin and mucin-domain containing-3 or HAVCR2 is a protein involved in immune regulation. It possesses an approximate mass of 35 kDa. TIM-3 is expressed on various immune cells including T cells NK cells and dendritic cells especially after activation. The expression level often changes in response to inflammatory conditions suggesting its role in modulating immune responses.
Biological function summary	TIM-3 functions as a checkpoint inhibitor impacting immune cell activity. It is not part of a larger physical complex but it modulates immune responses by interacting with its ligands such as Galectin-9 phosphatidylserine and CEACAM1. TIM-3 involvement in downregulating Th1 cell responses shows its necessary role in maintaining immune homeostasis. The protein also acts in regulating tolerance mechanisms and preventing autoimmunity.
Pathways	TIM-3 participation is seen in the immune checkpoint and T cell exhaustion pathways. TIM-3 signaling results in T cell inhibition affecting the PD-1 pathway as well. It shares a relationship with proteins like LAG-3 and PD-1 which are key to immune inhibitory signaling. These interactions depict TIM-3's role in immune tolerance during chronic infections and malignancies.
Associated diseases and disorders	TIM-3 association with cancer and chronic infections provides insight into therapeutic implications. In cancer TIM-3 contributes to immune evasion often co-expressed with PD-1 leading to T cell exhaustion. In autoimmune diseases TIM-3 modulation may affect disease progression by influencing immune tolerance. Understanding TIM-3's role in these contexts aids in developing targeted therapies such as anti-TIM-3 antibodies to enhance immune responses in cancer while promoting tolerance in autoimmunity.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

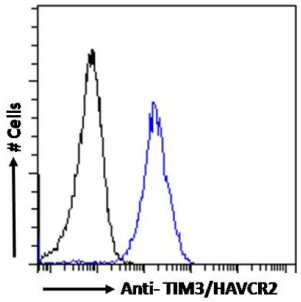
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

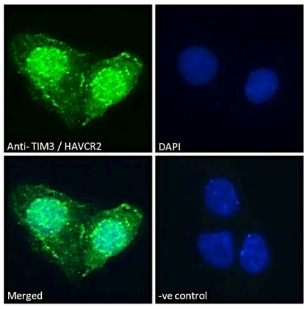
3 product images



Flow Cytometry - Anti-TIM-3/CD366 antibody (ab47997)

TIM-3/CD366 Flow Cytometry staining using goat Anti-TIM-3/CD366 antibody

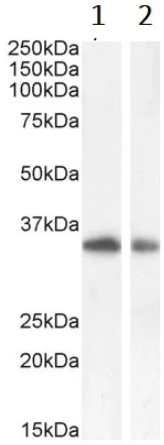
Flow cytometric analysis of paraformaldehyde fixed MCF7 cells (blue line), permeabilized with 0.5% Triton. Primary incubation 1hr (10µg/mL) followed by Alexa Fluor 488 secondary antibody (1µg/mL). IgG control: Unimmunized goat IgG (black line) followed by Alexa Fluor 488 secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-TIM-3/CD366 antibody (ab47997)

TIM-3/CD366 Immunocytochemistry/ Immunofluorescence staining using goat Anti-TIM-3/CD366 antibody

Immunofluorescence analysis of paraformaldehyde fixed HepG2 cells, permeabilized with 0.15% Triton. Primary incubation 1hr (10ug/ml) followed by Alexa Fluor 488 secondary antibody (2ug/ml), showing nuclear and plasma membrane staining. The nuclear stain is DAPI (blue). Negative control: Unimmunized goat IgG (10ug/ml) followed by Alexa Fluor 488 secondary antibody (2ug/ml).



Western blot - Anti-TIM-3/CD366 antibody (ab47997)

TIM-3/CD366 Western blot staining using goat Anti-TIM-3/CD366 antibody

Lysate in RIPA buffer. Detected by chemiluminescence.
Lane 1:
Western blot - Anti-TIM-3/CD366 antibody (ab47997) at 0.1 µg/mL

Lane 2:
Western blot - Anti-TIM-3/CD366 antibody (ab47997) at 0.5 µg/mL

Lane 1:
A549 cell lysate at 35 µg

Lane 2:
HepG2 cell lysate at 35 µg

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.