abcam

ab222093

Anti-TIM 4 antibody [EPR22304-3]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR22304-3
Purification technique	Affinity purification Protein A
Concentration	0.481 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Human
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1/500
Notes	-

WB

Not recommended

Species	Human
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Target data

See full target information TIMD4

Function Phosphatidylserine receptor that plays different role in immune response including phagocytosis of apoptotic cells and T-cell regulation. Controls T-cell activation in a bimodal fashion, decreasing the activation of naive T-cells by inducing cell cycle arrest, while increasing proliferation of activated T-cells by

activating AKT1 and ERK1/2 phosphorylations and subsequent signaling pathways (By similarity). Also plays a role in efferocytosis which is the process by which apoptotic cells are removed by phagocytic cells (PubMed:32703939, PubMed:34067457). Mechanistically, promotes the engulfment of apoptotic cells or exogenous particles by securing them to phagocytes through direct binding to phosphatidylserine present on apoptotic cells, while other engulfment receptors such as MERTK efficiently recognize apoptotic cells and mediate their ingestion (PubMed:32640697). Additionally, promotes autophagy process by suppressing NLRP3 inflammasome activity via activation of LKB1/PRKAA1 pathway in a phosphatidylserine-dependent mechanism (By similarity). (Microbial infection) Plays a positive role in exosome-mediated trafficking of HIV-1 virus and its entry into immune cells.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
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

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

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

Activity summary	TIM 4 also known as T cell immunoglobulin and mucin domain 4 is a protein of significant interest in immunology. It belongs to the TIM family of proteins which includes TIM 1 TIM 2 and TIM 3. TIM 4 weighs approximately 70 kDa and is mainly expressed on antigen-presenting cells including dendritic cells and macrophages. This protein plays an important role in immune response through its ability to recognize phosphatidylserine on apoptotic cells facilitating their clearance.
Biological function summary	The function of TIM 4 extends to regulating immune homeostasis and tolerance. TIM 4 does not possess signaling motifs itself but often associates with other adaptor proteins to exert its biological effects. It acts independently or forms part of complexes that modulate cell signaling events influencing the outcome of immune responses. The protein plays important roles in maintaining the delicate balance of immune activation and suppression which is critical to preventing autoimmunity.
Pathways	TIM 4 interaction occurs in pathways like the phosphatidylserine-mediated phagocytosis pathway which involves clearance of apoptotic cells. TIM 4 engages with phosphatidylserine a process important to maintaining tissue homeostasis and preventing inflammation. It works alongside other proteins in similar pathways including TIM 3 where together they mediate distinct and overlapping cellular processes involved in immune regulation.
Associated diseases and disorders	TIM 4 presents significant implications in conditions including autoimmune diseases and cancer. Aberrant expression or function of TIM 4 associates with autoimmune disorders where it may contribute to the insufficient clearance of apoptotic cells subsequently promoting autoimmunity. In cancer altered TIM 4 activity can influence tumor progression by affecting immune evasion mechanisms. As TIM 4 interacts with TIM 3 these proteins together play roles in the development and progression of these diseases.

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

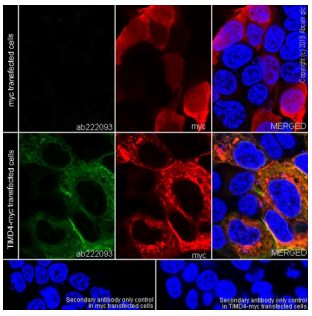
We do not recommend this combination. It is not covered by our product promise.

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

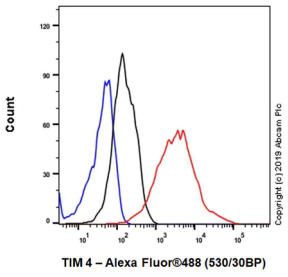


Immunocytochemistry/ Immunofluorescence - Anti-TIM 4 antibody [EPR22304-3] (ab222093)

TIM 4 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-TIM 4 antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized TIM 4 transfected HEK-293T (Human epithelial cell line from embryonic kidney transformed with large T antigen) cells labeling TIM 4 (Green) with ab222093 at 1/100 dilution, followed by AlexaFluor®488 Goat anti-Rabbit secondary (ab150077) antibody at 1/1000 dilution. Confocal image showing positive staining in HEK-293T cells transfected with a myc-tagged TIM 4 expression construct. myc-Tag (9B11) Mouse mAb (Alexa Fluor® 594 Conjugate) (ab223894) was used as the counterstain (Red) at 1/100 dilution. The nuclear counterstain was DAPI (Blue).
Negative control: Myc only transfected HEK-293T cells.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is AlexaFluor®488 Goat anti-Rabbit secondary (ab150077).

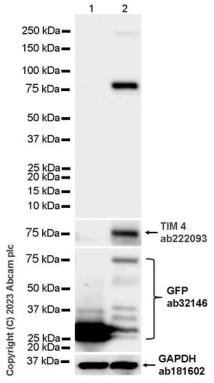


Flow Cytometry - Anti-TIM 4 antibody [EPR22304-3] (ab222093)

TIM 4 Flow Cytometry staining using rabbit Anti-TIM 4 antibody

Flow cytometric analysis of 4% paraformaldehyde-fixed HEK-293T (Human epithelial cell line from embryonic kidney transformed with large T antigen) transfected with a myc-tagged TIM 4 expression construct labeling TIM 4 with ab222093 at 1/500 dilution (Red) compared with a Rabbit monoclonal IgG (ab172730, Black) and an unlabeled control (cells without incubation with primary antibody and secondary antibody, Blue).
Cells were surface stained with ab222093. Then fixed with 2% PFA for 10min, followed by intracellular staining of anti-myc tag conjugated to Alexa Fluor®647.

Gated on myc -positive population.



Western blot - Anti-TIM 4 antibody [EPR22304-3] (ab222093)

TIM 4 Western blot staining using rabbit Anti-TIM 4 antibody

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

In Western blot, Anti-GFP antibody [E385] (ab32146) staining at 1/10000 dilution.

In Western blot, Anti-TIM 4 antibody [EPR22304-3] (ab222093) staining at 1/1000 dilution.

All lanes:

Western blot - Anti-HA tag antibody [RM1058] (ab314237) at 1/1000 dilution

Lane 1:
293T (human embryonic kidney) transfected with an empty vector (vector control), containing a myc-GFP-tag, whole cell lysate at 20 µg

Lane 2:
293T transfected with TIM 4 (WT) expression vector containing a HA-myc-His-GFP-tag and PDGFR TM domain, whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 78 kDa, 36 kDa

Exposure time: 37s

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