abcam

ab241098

PE Anti-TIM 4 antibody [RMT4-54]

Anti-TIM 4 antibody [RMT4-54] conjugated to PE - suitable for flow cytometry, and reacts with mouse samples. Clone [RMT4-54] is a rat monoclonal antibody cited in 40 publications.

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Key facts

Isotype	IgG2a
Host species	Rat
Conjugation	PE
Excitation/Emission	Ex: 480;565nm, Em: 578nm
Storage buffer	pH: 7.2 Preservative: 0.09% Sodium azide Constituents: 0.87% Sodium chloride, 0.14% Potassium phosphate monobasic, 0.1% Gelatin
Form	Liquid
Clonality	Monoclonal
Clone number	RMT4-54
Purification technique	Affinity purification
Light chain type	kappa
Concentration	0.2 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from tissue culture supernatant. Purified antibody was conjugated under optimal conditions, with unreacted dye removed from the preparation.

Reactivity data

Flow Cyt

Tested

Species	Mouse
Dilution info	-
Notes	Use 0.125 µg.

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	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Store in the dark

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

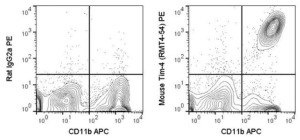
We do not recommend this combination. It is not covered by our product promise.

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1 product image



Flow Cytometry - PE Anti-TIM 4 antibody [RMT4-54] (ab241098)

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

Flow cytometric analysis of C57Bl/6 resident peritoneal exudate cells stained with APC Anti-Mouse CD11b and 0.125 ug ab241098 (right panel) or 0.125 ug Phycoerythrin Rat IgG2a (left panel).

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