abcam

ab248177

Anti-Themis antibody [EPR7353] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR7353
Purification technique	Affinity purification Protein A

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information THEMIS

Function	Plays a central role in late thymocyte development by controlling both positive and negative T-cell selection. Required to sustain and/or integrate signals required for proper lineage commitment and maturation of T-cells. Regulates T-cell development through T-cell antigen receptor (TCR) signaling and in particular through the regulation of calcium influx and phosphorylation of Erk.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

ab248177 is the carrier-free version of ab126771.

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.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	Themis also known as thymocyte-expressed molecule involved in selection is a protein involved in T-cell development. Themis has a mass of approximately 64 kDa. Researchers have found it expressed specifically in thymocytes a type of immune cell found in the thymus. Mechanically Themis helps in signal transduction processes necessary for the proper development and selection of T-cells which are important components of the adaptive immune system. Themis functions by binding to and modulating various signaling molecules within the immune cells.
Biological function summary	Themis plays a significant role in T-cell receptor (TCR) signaling which is essential for the positive and negative selection of thymocytes. Themis functions as part of a complex that cooperates with other proteins to fine-tune the thresholds for TCR signaling. Through its action it ensures the proper development of functional and self-tolerant T-cells helping to distinguish self from non-self in immune responses. As cells progress through the thymus Themis regulates the strength and duration of signaling ensuring the appropriate intensity for T-cell maturation.
Pathways	T-cell development heavily relies on Themis for its contribution to the TCR signaling pathway. Themis interacts in this pathway with important proteins such as LAT (Linker for Activation of T cells) and SLP-76 which are key components for propagating downstream signaling that leads to T-cell activation. Additionally Themis is involved with the Ras-MAPK signaling pathway which further contributes to cell proliferation and differentiation. Both pathways are critical for maintaining the balance in the immune response allowing for the selection of T-cells that can combat infections while avoiding autoimmunity.

Associated diseases and disorders	Disruptions in Themis function can link to autoimmune diseases and severe combined immunodeficiency (SCID). Mutations or misregulation of Themis can cause improper T-cell selection leading to the survival of self-reactive T-cells or failure in T-cell development. For example defective Themis activity has connections to autoimmune disorders where the body attacks its own tissues. In such cases proteins like LAT and SLP-76 can also show altered activity which contributes to the development and progression of these immune-related 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

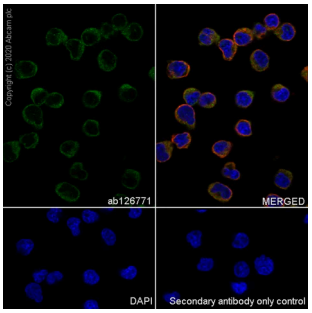
We do not recommend this combination. It is not covered by our product promise.

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.

4 product images

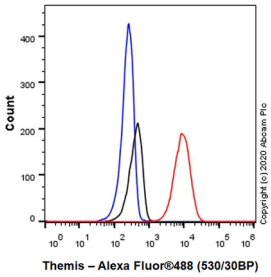


Immunocytochemistry/ Immunofluorescence - Anti-Themis antibody [EPR7353] - BSA and Azide free (ab248177)

Themis Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Themis antibody

This data was developed using ab126771, the same antibody clone in a different buffer formulation.
Immunocytochemistry analysis of Jurkat (Human T cell leukemia T lymphocyte) cells labeling Themis with Purified ab248177 at 1:50 dilution (10 µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5

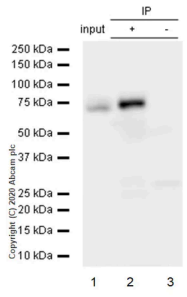
µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Flow Cytometry (Intracellular) - Anti-Themis antibody [EPR7353] - BSA and Azide free (ab248177)

Themis Flow Cytometry (Intracellular) staining using rabbit Anti-Themis antibody

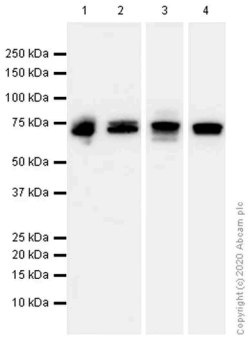
This data was developed using ab126771, the same antibody clone in a different buffer formulation.Intracellular Flow Cytometry analysis of Jurkat (Human T cell leukemia T lymphocyte) cells labeling Themis with Purified ab248177 at 1/50 dilution (10µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Immunoprecipitation - Anti-Themis antibody [EPR7353] - BSA and Azide free (ab248177)

This data was developed using ab126771, the same antibody clone in a different buffer formulation.
Purified ab126771 at 1/30 dilution (2µg) immunoprecipitating Themis in Jurkat whole cell lysate.
Lane 1 (input): Jurkat (Human T cell leukemia T lymphocyte) whole cell lysate 10µg
Lane 2 (+): ab126771 + Jurkat whole cell lysate.
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab126771 in Jurkat whole cell lysate.
VeriBlot for IP Detection Reagent (HRP) (ab131366) (1/1000 dilution) was used for Western blotting.
Blocking Buffer and concentration: 5% NFDM/TBST.
Diluting buffer and concentration: 5% NFDM/TBST.
Observed band size: 73 kDa
All lanes:
Immunoprecipitation - Anti-Themis antibody [EPR7353] (ab126771)

Predicted band size: 73 kDa



Western blot - Anti-Themis antibody [EPR7353] - BSA and Azide free (ab248177)

Themis Western blot staining using rabbit Anti-Themis antibody

This data was developed using ab126771, the same antibody clone in a different buffer formulation.
The molecular weight observed is consistent with what has been described in the literature (PMID: 25535246 and PMID: 19597499).

Blocking Buffer and concentration: 5% NFDM/TBST

All lanes:
Western blot - Anti-Themis antibody [EPR7353] (ab126771) at 1/1000 dilution

Lane 1:
Jurkat (Human T cell leukemia T lymphocyte) whole cell lysate at 20 µg

Lane 2:
MOLT-4 (Human lymphoblastic leukemia T lymphoblast) whole cell lysate at 20 µg

Lane 3:
Mouse thymus lysate at 20 µg

Lane 4:
Rat thymus lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 73 kDa

Observed band size: 73 kDa

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