abcam

ab157243

Anti-ITK/EMT antibody [Y401] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	Y401
Purification technique	Affinity purification Protein A
Concentration	1.006 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information ITK

Function Tyrosine kinase that plays an essential role in regulation of the adaptive immune response. Regulates the development, function and differentiation of conventional T-cells and nonconventional NKT-cells. When antigen presenting cells (APC) activate T-cell receptor (TCR), a series of phosphorylation lead to the recruitment of ITK to the cell membrane, in the vicinity of the stimulated TCR receptor, where it is phosphorylated by LCK. Phosphorylation leads to ITK autophosphorylation and full activation. Once activated, phosphorylates PLCG1, leading to the activation of this lipase and subsequent cleavage of its substrates. In turn, the endoplasmic reticulum releases calcium in the cytoplasm and the nuclear activator of activated T-cells (NFAT) translocates into the nucleus to perform its transcriptional duty. Phosphorylates 2 essential adapter proteins: the linker for activation of T-cells/LAT protein and LCP2. Then, a large number of signaling molecules such as VAV1 are recruited and ultimately lead to lymphokine production, T-cell proliferation and differentiation (PubMed:12186560, PubMed:12682224, PubMed:21725281). Required for TCR-mediated calcium response in gamma-delta T-cells, may also be involved in the modulation of the transcriptomic signature in the Vgamma2-positive subset of immature gamma-delta T-cells (By similarity). Phosphorylates TBX21 at 'Tyr-530' and mediates its interaction with GATA3 (By similarity).

Storage

Shipped at conditions Blue Ice

Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab157243 is the carrier-free version of ab32039.

Species reactivity
Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

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	ITK also known as Interleukin-2-inducible T-cell kinase is a protein belonging to the Tec family of non-receptor tyrosine kinases. It weighs approximately 72 kDa and plays a significant role in signal transduction in immune cells specifically T cells. ITK is widely expressed in lymphoid tissues particularly in thymocytes and

	peripheral T cells. ITK products often include variants like ITK-1 and ITK kit which are useful in various scientific applications.
Biological function summary	ITK is integral to the activation and development of T cells which are critical components of the adaptive immune response. ITK functions as part of a larger signaling complex interacting with proteins such as LAT and SLP-76 to mediate downstream signaling events following T-cell receptor engagement. This interaction facilitates the phosphorylation of multiple substrates which is necessary for T-cell proliferation differentiation and cytokine production.
Pathways	ITK plays an important role in T-cell receptor signaling and the downstream Ras/MAPK pathway. It interacts with proteins like ZAP-70 and LCK in these pathways which are important for initiating T-cell activation and function. The modulation of these pathways by ITK is essential for proper immune function and response to antigens.
Associated diseases and disorders	ITK is linked to immunodeficiency and autoimmune disorders. Dysregulation of ITK activity can lead to conditions like X-linked lymphoproliferative syndrome and systemic lupus erythematosus. The EMT protein also ties with ITK concerning certain neoplastic conditions where aberrant signaling contributes to the pathogenesis. Researchers study ITK's interactions with other proteins such as BSA EMT to understand its role in these diseases better and explore potential therapeutic targets.

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

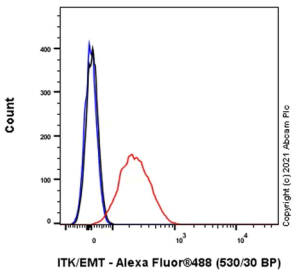
We do not recommend this combination. It is not covered by our product promise.

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.

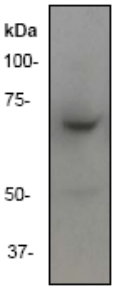
Full details and terms and conditions can be found here:
Terms & Conditions.

3 product images



Flow Cytometry (Intracellular) - Anti-ITK/EMT antibody [Y401] - BSA and Azide free (ab157243)

This data was developed using ab32039, the same antibody clone in a different buffer formulation. Intracellular Flow Cytometry analysis of Jurkat (Human T cell leukemia T lymphocyte) cells labeling ITK/EMT with purified ab320396 at 1:50 dilution (10 µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150081) (1/2000 dilution) was used as the secondary antibody. Rabbit monoclonal IgG (Black) was used as a isotype control. Cell without incubation with primary antibody and secondary antibody (Blue) were used as unlabeled control.



Western blot - Anti-ITK/EMT antibody [Y401] - BSA and Azide free (ab157243)

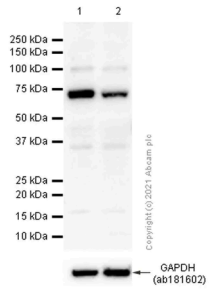
ITK/EMT Western blot staining of Jurkat cell lysate using rabbit Anti-ITK/EMT antibody

This data was developed using ab32039, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-ITK/EMT antibody [Y401] (ab32039) at 1/5000 dilution

All lanes:
Jurkat cell lysate

Predicted band size: 72 kDa

Observed band size: 68 kDa



Western blot - Anti-ITK/EMT antibody [Y401] - BSA and Azide free (ab157243)

This data was developed using ab32039, the same antibody clone in a different buffer formulation. Blocking and diluting buffer and concentration: 5% NFDM/TBST. ab181602 was used as GAPDH loading control.
All lanes:
Western blot - Anti-ITK/EMT antibody [Y401] (ab32039) 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

Secondary

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

Predicted band size: 72 kDa

Observed band size: 68 kDa

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