abcam

ab32039

Anti-ITK/EMT antibody [Y401]

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	Y401
Purification technique	Affinity purification Protein A
Concentration	0.547 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	1/1000 - 1/5000
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/100
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

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	Conditional Ambient

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

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.

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

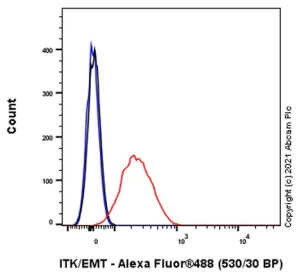
We do not recommend this combination. It is not covered by our product promise.

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.

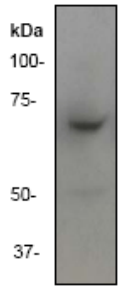
Full details and terms and conditions can be found here:
Terms & Conditions.

3 product images



Flow Cytometry (Intracellular) - Anti-ITK/EMT antibody [Y401] (ab32039)

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] (ab32039)

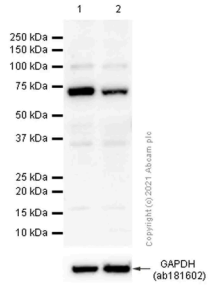
ITK/EMT Western blot staining of Jurkat cell lysate using rabbit Anti-ITK/EMT antibody

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] (ab32039)

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'.