abcam

ab278666

FITC Anti-JAK3 (phospho Y980 + Y981) antibody [JAK3Y980981-E10]

Recombinant

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	FITC
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	Preservative: 0.09% Sodium azide Constituents: PBS, 0.2% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Synthetic Peptide within Human JAK3 pY980 + Y981. The exact immunogen used to generate this antibody is proprietary information. Database link P52333
Clone number	JAK3Y980981-E10
Purification technique	Affinity purification Protein A/G
Light chain type	kappa

Reactivity data

Flow Cyt

Tested

Species	Human

Dilution info	5 µL for 10^6 Cells
Notes	-

Target data

See full target information JAK3 pY980 + Y981

Function	Non-receptor tyrosine kinase involved in various processes such as cell growth, development, or differentiation. Mediates essential signaling events in both innate and adaptive immunity and plays a crucial role in hematopoiesis during T-cells development. In the cytoplasm, plays a pivotal role in signal transduction via its association with type I receptors sharing the common subunit gamma such as IL2R, IL4R, IL7R, IL9R, IL15R and IL21R. Following ligand binding to cell surface receptors, phosphorylates specific tyrosine residues on the cytoplasmic tails of the receptor, creating docking sites for STATs proteins. Subsequently, phosphorylates the STATs proteins once they are recruited to the receptor. Phosphorylated STATs then form homodimer or heterodimers and translocate to the nucleus to activate gene transcription. For example, upon IL2R activation by IL2, JAK1 and JAK3 molecules bind to IL2R beta (IL2RB) and gamma chain (IL2RG) subunits inducing the tyrosine phosphorylation of both receptor subunits on their cytoplasmic domain. Then, STAT5A and STAT5B are recruited, phosphorylated and activated by JAK1 and JAK3. Once activated, dimerized STAT5 translocates to the nucleus and promotes the transcription of specific target genes in a cytokine-specific fashion.

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

Notes

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	JAK3 also known as Janus kinase 3 is a protein with a molecular mass of approximately 125 kDa. It belongs to the Janus kinase family and plays an important role in the signal transduction pathways. JAK3 is expressed mainly in hematopoietic cells which include white blood cells and related precursor cells. Its primary function involves mediating signaling by associating with the common gamma chain used by cytokine receptors.
Biological function summary	JAK3 is instrumental in the signaling mechanism of the immune system. It participates in the activation of various interleukins specifically those that signal through the common gamma chain receptor complex. JAK3's role is essential in the proper functioning and development of immune cells such as T cells and natural killer cells. Within this framework JAK3 pairs with cytokine receptors transmitting signals that regulate both proliferation and differentiation of these immune cells.
Pathways	JAK3 integrates into JAK-STAT signaling pathways. This protein works alongside STAT proteins including STAT5 to facilitate the transcription of genes involved in cell survival and proliferation. It also interacts with JAK1 another member of the Janus kinase family to form functional complexes. These interactions are pivotal in maintaining normal immune responses and ensuring that signaling pathways are activated appropriately in response to extracellular cues.
Associated diseases and disorders	Abnormal JAK3 function can lead to immune-related conditions. Severe combined immunodeficiency (SCID) is one such disorder arising from JAK3 mutations that impair immune cell function. Additionally JAK3 dysregulation links to malignancies such as T-cell acute lymphoblastic leukemia. Relating to these disorders JAK3 affects proteins like IL-7R and gamma chains which are important for cytokine signaling contributing to pathologies when malfunctioning.

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

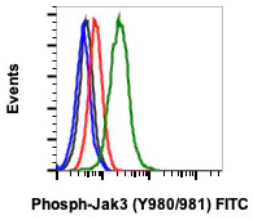
We do not recommend this combination. It is not covered by our product promise.

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.

1 product image



Flow Cytometry - FITC Anti-JAK3 (phospho Y980 + Y981) antibody [JAK3Y980981-E10] (ab278666)

JAK3 (phospho Y980 + Y981) Flow Cytometry staining using rabbit Anti-JAK3 (phospho Y980 + Y981) antibody

Flow cytometric analysis of Ramos cells untreated (red) or treated with pervanate (green) using ab278666, or concentration-matched Rabbit (G9) mAb IgG Isotype Control (FITC Conjugate) for cells untreated (black) or treated with pervanate (blue).

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