abcam

ab218773

PE Anti-FOXP3 antibody [MF23]

Anti-FOXP3 antibody [MF23] conjugated to PE - suitable for flow cytometry, and reacts with mouse samples. Clone [MF23] is a rat monoclonal antibody and one of the most commonly used clones for flow cytometry.

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Key facts

Isotype	IgG2b
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, 0.12% Sodium dihydrogen phosphate, 0.1% Gelatin
Form	Liquid
Clonality	Monoclonal
Clone number	MF23
Purification technique	Affinity purification Protein A
Concentration	0.2 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	ab218773 is purified from tissue culture supernatant via affinity chromatography. The 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 0.25 µg per test

Target data

See full target information FOXP3

Function	Transcriptional regulator which is crucial for the development and inhibitory function of regulatory T-cells (Treg) (PubMed:17377532, PubMed:21458306, PubMed:23947341, PubMed:24354325, PubMed:24722479, PubMed:24835996, PubMed:30513302, PubMed:32644293). Plays an essential role in maintaining homeostasis of the immune system by allowing the acquisition of full suppressive function and stability of the Treg lineage, and by directly modulating the expansion and function of conventional T-cells (PubMed:23169781). Can act either as a transcriptional repressor or a transcriptional activator depending on its interactions with other transcription factors, histone acetylases and deacetylases (PubMed:17377532, PubMed:21458306, PubMed:23947341, PubMed:24354325, PubMed:24722479). The suppressive activity of Treg involves the coordinate activation of many genes, including CTLA4 and TNFRSF18 by FOXP3 along with repression of genes encoding cytokines such as interleukin-2 (IL2) and interferon-gamma (IFNG) (PubMed:17377532, PubMed:21458306, PubMed:23947341, PubMed:24354325, PubMed:24722479). Inhibits cytokine production and T-cell effector function by repressing the activity of two key transcription factors, RELA and NFATC2 (PubMed:15790681). Mediates transcriptional repression of IL2 via its association with histone acetylase KAT5 and histone deacetylase HDAC7 (PubMed:17360565). Can activate the expression of TNFRSF18, IL2RA and CTLA4 and repress the expression of IL2 and IFNG via its association with transcription factor RUNX1 (PubMed:17377532). Inhibits the differentiation of IL17 producing helper T-cells (Th17) by antagonizing RORC function, leading to down-regulation of IL17 expression, favoring Treg development (PubMed:18368049). Inhibits the transcriptional activator activity of RORA (PubMed:18354202). Can repress the expression of IL2 and IFNG via its association with transcription factor IKZF4 (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Storage information	Do Not Freeze, Store in the dark

Supplementary info

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

Activity summary	FOXP3 also recognized as Forkhead box P3 is a transcription factor critical for immune system function. It weighs approximately 47 kDa. FOXP3 is mainly expressed in regulatory T cells (Tregs) which play a role in maintaining immune tolerance. Scientists primarily identify its presence in the nucleus where it facilitates transcriptional regulation. Methods like 'FOXP3 IHC' and 'FOXP3 IHC mouse' are useful for detecting this protein in tissue samples while 'FOXP3 antibodies' aid in research on this target. Techniques like 'FOXP3 staining' and 'FOXP3 flow cytometry' further allow for the analysis of its expression and function.
Biological function summary	This transcription factor operates by regulating the expression of a variety of genes involved in Treg cell development and function. FOXP3 can interact with other proteins to form complexes that modulate gene expression. Its role is essential in enabling Tregs to suppress immune responses a process necessary for preventing autoimmunity. The interaction extends to other key regulators within Tregs such as the protein complex 221D which may have overlapping functional responsibilities. 'FOXP3 236a/E7' reflects its genetic variants detectable in different studies providing insights into its biological functions.
Pathways	FOXP3 is a significant player within the immune regulation pathway. It integrates into the TGF-beta signaling pathway in which it controls the expression of genes important for Treg functions. The protein recruits other transcription factors like NF-kB coordinating intricate network regulations within immune cells. FOXP3's activity orchestrates the balance between immune activation and suppression ensuring a well-functioning immune response that prevents overreactions leading to autoimmune conditions.
Associated diseases and disorders	FOXP3 mutations or dysregulation can link to autoimmune diseases like immune dysregulation polyendocrinopathy enteropathy X-linked syndrome (IPEX). This transcription factor's malfunction implicates cancer where inadequate Treg function can either suppress antitumor immunity or result in tumor progression. Proteins such as CTLA-4 which is also involved in immune regulation connect to FOXP3 in these contexts emphasizing FOXP3’s significant role in maintaining immune homeostasis and its impact on disease development.

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.

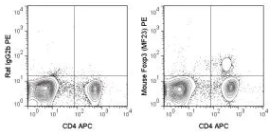
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1 product image



Flow Cytometry - PE Anti-FOXP3 antibody [MF23] (ab218773)

FOXP3 Flow Cytometry staining using rat Anti-FOXP3 antibody

Flow Cytometry analysis of C57Bl/6 splenocytes stained with APC anti-mouse CD4 labeling FOXP3 by intracellular staining with ab218773 at 0.25 µg per reaction (right panel) or 0.25 µg Phycoerythrin Rat IgG2b isotype control (left panel).

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