abcam

ab36607

Anti-FOXP3 antibody [2A11G9]

Lab Essentials

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human FOXP3. The exact immunogen used to generate this antibody is proprietary information. Database link Q9BZS1
Clone number	2A11G9
Purification technique	Affinity purification Protein G
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from tissue culture supernatant.

Reactivity data

Flow Cyt

Tested

Species	Human

Dilution info	1 µg for 10^6 Cells
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Not recommended

Species	Transfected cell lysate - Human
Dilution info	-
Notes	-

WB

Tested

Species	Transfected cell lysate - Human
Dilution info	1/500 - 1/2000
Notes	-

Expected

Species	Human
Dilution info	1/500 - 1/2000
Notes	-

IHC-P

Not recommended

Species	Human
Dilution info	-
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Species	Transfected cell lysate - Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/200 - 1/1000
Notes	-

Not recommended

Species	Transfected cell lysate - Human
Dilution info	-
Notes	-

IHC-Fr

Not recommended

Species	Human, Transfected cell lysate - Human
Dilution info	-
Notes	-

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
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

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

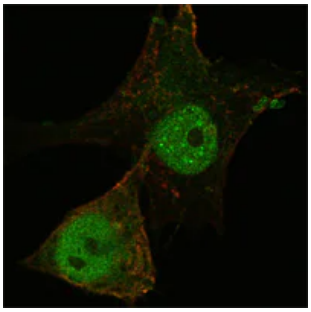
We do not recommend this combination. It is not covered by our product promise.

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:
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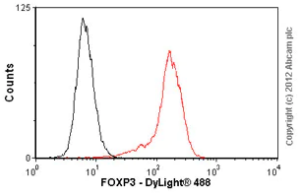
3 product images



Immunocytochemistry/ Immunofluorescence - Anti-FOXP3 antibody [2A11G9] (ab36607)

FOXP3 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-FOXP3 antibody

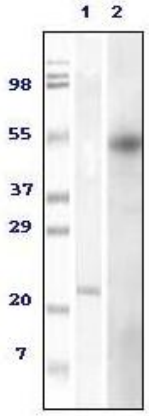
ab36607 at 1/1000 dilution staining FOXP3 in human PANC1 cells by Immunocytochemistry/ Immunofluorescence. An Alexa Fluor® 488 conjugated Goat polyclonal to mouse IgG was used as secondary antibody. The primary antibody show green staining in image whilst actin filaments were stained red with Alexa Fluor® 555 Phalloidin.



Flow Cytometry - Anti-FOXP3 antibody [2A11G9] (ab36607)

FOXP3 Flow Cytometry staining using mouse Anti-FOXP3 antibody

Overlay histogram showing Jurkat cells stained with ab36607 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab36607, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in Jurkat cells fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.



Western blot - Anti-FOXP3 antibody [2A11G9] (ab36607)

FOXP3 Western blot staining using mouse Anti-FOXP3 antibody

All lanes:
Western blot - Anti-FOXP3 antibody [2A11G9] (ab36607) at 1/1000 dilution

Lane 1:
Protein expression of truncated FOXP3 in E. coli following transfection at 2 µg/mL

Lane 2:
Protein expression of truncated FOXP3 in HEK293 cells following transfection at 2 µg/mL

Predicted band size: 47 kDa

Observed band size: 50-53 kDa

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