10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

FOXP3 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1415a

Product Information

Application	WB, E
Primary Accession	Q9BZS1
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	4C7
Isotype	IgG1
Calculated MW	47244
Description	FOXP3 (a 431 amino acid protein) is a member of the forkhead/winged-helix family of transcriptional regulators and is highly conserved across mammals. FOXP3 is essential for normal immune homeostasis. FOXP3 is stably and constitutively expressed at a high level in CD25 + CD4 positive regulatory T cells, at low level in CD4 positive/CD25 negative cells, and is absent in CD4 negative/CD8 positive T cells. FOXP3 may be a master regulatory gene and a more specific marker of regulatory T cells than other T cells.
Immunogen	Purified recombinant fragment of human FOXP3 expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	50943
Other Names	Forkhead box protein P3, Scurfin, FOXP3, IPEX
Dilution	WB~~1/500 - 1/2000 E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	FOXP3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	FOXP3
Synonyms	IPEX

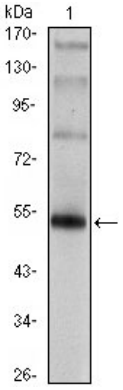
Function	Transcriptional regulator which is crucial for the development and inhibitory function of regulatory T-cells (Treg) (PubMed:17377532, PubMed:21458306, PubMed:23947341, PubMed:24354325, PubMed:24722479, PubMed:24835996, PubMed:30513302, PubMed:32644293). Plays an essential role in maintaining 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).
Cellular Location	Nucleus {ECO:0000255|PROSITE-ProRule:PRU00089, ECO:0000269|PubMed:17360565, ECO:0000269|PubMed:18354202, ECO:0000269|PubMed:22678915, ECO:0000269|PubMed:23396208, ECO:0000269|PubMed:23973222, ECO:0000269|PubMed:23973223, ECO:0000269|PubMed:32644293}. Cytoplasm Note=Predominantly expressed in the cytoplasm in activated conventional T-cells whereas predominantly expressed in the nucleus in regulatory T- cells (Treg). The 41 kDa form derived by proteolytic processing is found exclusively in the chromatin fraction of activated Treg cells (By similarity). {ECO:0000250|UniProtKB:Q99JB6, ECO:0000269|PubMed:22678915}

References

1. Clin Immunol. 2010 Mar;134(3):277-88. 2. Lupus. 2010 Feb;19(2):138-45.

Images

Figure 1: Western blot analysis using FOXP3 mAb against FOXP3(AA: 2-193)-hIgGFc transfected HEK293 cell.



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