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FOXP3 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2795b

Product Information

Application	WB, IHC-P, FC, E
Primary Accession	Q9BZS1
Other Accession	Q6U8D7
Reactivity	Human, Mouse
Predicted	Monkey, Rat, Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	47244
Antigen Region	283-311

Additional Information

Gene ID	50943
Other Names	Forkhead box protein P3, Scurfin, FOXP3, IPEX
Target/Specificity	This FOXP3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 283-311 amino acids from the C-terminal region of human FOXP3.
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	FOXP3 Antibody (C-term) 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}

Background

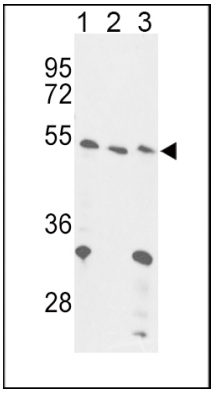
FOXP3 is a member of the forkhead/winged-helix family of transcriptional regulators. Defects in FOXP3 gene are the cause of immunodeficiency polyendocrinopathy, enteropathy, X-linked syndrome (IPEX), also known as X-linked autoimmunity-immunodeficiency syndrome.

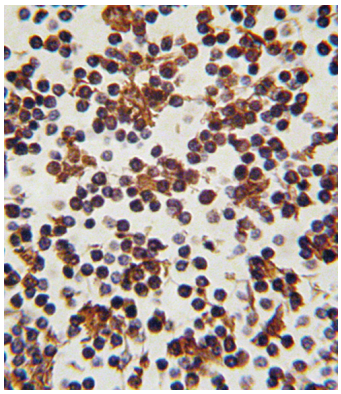
References

Eisenberger,U.,Transplantation 87 (1), 138-142 (2009) Ouaked,N., J. Immunol. 182 (2), 1041-1049 (2009) Kivling,A., Ann. N. Y. Acad. Sci. 1150, 273-277 (2008)

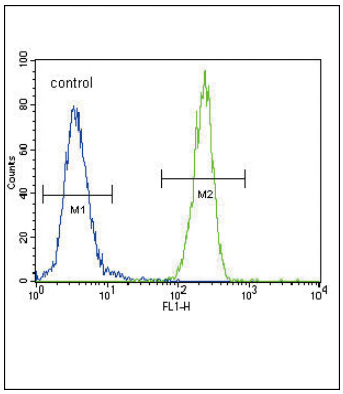
Images

Western blot analysis of FOXP3 Antibody (C-term) (Cat. #AP2795b) in 293(lane 1), Jurkat cell line(lane 2) and mouse liver tissue(lane 3) lysates (35ug/lane). FOXP3 (arrow) was detected using the purified Pab.





Formalin-fixed and paraffin-embedded human lymph tissue reacted with FOXP3 antibody (C-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



FOXP3 Antibody (C-term) (Cat. #AP2795b) flow cytometric analysis of 293 cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Citations

- Expression of Foxp3 and its prognostic significance in colorectal cancer.
- Distribution of lymphocyte subpopulations in thyroid glands of human autoimmune thyroid disease.
- Cyclic adenosine monophosphate involvement in low-dose cyclophosphamide-reversed immune evasion in a mouse lymphoma model.
- Up-regulated expression of indoleamine 2,3-dioxygenase 1 in non-Hodgkin lymphoma correlates with increased regulatory T-cell infiltration.

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