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Tbx21 Rabbit pAb

Catalog # AP98757

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q9UL17
Other Accession	Q9UL17
Reactivity	Human, Mouse
Predicted	Rat, Pig, Dog, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	58328
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Tbx21
Epitope Specificity	201-300/535
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Contains 1 T-box DNA-binding domain.
DISEASE	Genetic variations in TBX21 are associated with susceptibility to asthma with nasal polyps and aspirin intolerance (ANPAI) [MIM:208550]. A condition consisting of asthma, aspirin sensitivity and nasal polyposis. Nasal polyposis is due to chronic inflammation of the paranasal sinus mucosa, leading to protrusion of edematous polyps into the nasal cavities.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene is a member of a phylogenetically conserved family of genes that share a common DNA-binding domain, the T-box. T-box genes encode transcription factors involved in the regulation of developmental processes. This gene is the human ortholog of mouse Tbx21/Tbet gene. Studies in mouse show that Tbx21 protein is a Th1 cell-specific transcription factor that controls the expression of the hallmark Th1 cytokine, interferon-gamma (IFNG). Expression of the human ortholog also correlates with IFNG expression in Th1 and natural killer cells, suggesting a role for this gene in initiating Th1 lineage development from naive Th precursor cells. [provided by RefSeq, Jul 2008].

Additional Information

Gene ID	30009
Other Names	IMD88; T-PET; T-bet; TBET; TBLYM; TBT1; TBX21_HUMAN; TBX21; T-box protein 21; T-cell-specific T-box transcription factor T-bet; Transcription factor TBLYM; TBX21_MOUSE; T-box transcription factor 21; T-box 21; T-box transcription factor expressed in T cells
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500

Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	TBX21
Synonyms	TBET, TBLYM
Function	Lineage-defining transcription factor which initiates Th1 lineage development from naive Th precursor cells both by activating Th1 genetic programs and by repressing the opposing Th2 and Th17 genetic programs (PubMed:10761931). Activates transcription of a set of genes important for Th1 cell function, including those encoding IFN- gamma and the chemokine receptor CXCR3. Induces permissive chromatin accessibility and CpG methylation in IFNG (PubMed:33296702). Activates IFNG and CXCR3 genes in part by recruiting chromatin remodeling complexes including KDM6B, a SMARCA4-containing SWI/SNF-complex, and an H3K4me2-methyltransferase complex to their promoters and all of these complexes serve to establish a more permissive chromatin state conducive with transcriptional activation (By similarity). Can activate Th1 genes also via recruitment of Mediator complex and P-TEFb (composed of CDK9 and CCNT1/cyclin-T1) in the form of the super elongation complex (SEC) to super-enhancers and associated genes in activated Th1 cells (PubMed:27292648). Inhibits the Th17 cell lineage commitment by blocking RUNX1-mediated transactivation of Th17 cell-specific transcriptinal regulator RORC. Inhibits the Th2 cell lineage commitment by suppressing the production of Th2 cytokines, such as IL-4, IL-5, and IL- 13, via repression of transcriptional regulators GATA3 and NFATC2. Protects Th1 cells from amplifying aberrant type-I IFN response in an IFN-gamma abundant microenvironment by acting as a repressor of type-I IFN transcription factors and type-I IFN-stimulated genes. Acts as a regulator of antiviral B-cell responses; controls chronic viral infection by promoting the antiviral antibody IgG2a isotype switching and via regulation of a broad antiviral gene expression program (By similarity). Required for the correct development of natural killer (NK) and mucosal-associated invariant T (MAIT) cells (PubMed:33296702).
Cellular Location	Nucleus
Tissue Location	T-cell specific..

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