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TBX21 Antibody (N-term) Blocking Peptide

Synthetic peptide
Catalog # BP14428a

Specification

TBX21 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession Q9UL17

TBX21 Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 30009

Other Names
T-box transcription factor TBX21, T-box protein 21, T-cell-specific T-box transcription factor T-bet, Transcription factor TBLYM, TBX21, TBET, TBLYM

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

TBX21 Antibody (N-term) Blocking Peptide - 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 accessibilty 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..

TBX21 Antibody (N-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

TBX21 Antibody (N-term) Blocking Peptide - Images

TBX21 Antibody (N-term) Blocking Peptide - Background

This gene is a member of a phylogenetically conservedfamily of genes that share a common DNA-binding domain, the T-box.T-box genes encode transcription factors involved in the regulationof developmental processes. This gene is the human ortholog ofmouse Tbx21/Tbet gene. Studies in mouse show that Tbx21 protein isa Th1 cell-specific transcription factor that controls theexpression of the hallmark Th1 cytokine, interferon-gamma (IFNG).Expression of the human ortholog also correlates with IFNGexpression in Th1 and natural killer cells, suggesting a role forthis gene in initiating Th1 lineage development from naive Thprecursor cells.

TBX21 Antibody (N-term) Blocking Peptide - References

Mohr, E., et al. Proc. Natl. Acad. Sci. U.S.A. 107(40):17292-17297(2010)Zhu, Y., et al. J. Immunol. 185(6):3174-3183(2010)Qu, Y., et al. J. Immunol. 185(5):2895-2902(2010)Schuurhof, A., et al. Pediatr. Pulmonol. 45(6):608-613(2010)Jugessur, A., et al. PLoS ONE 5 (7), E11493 (2010) :