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Anti-T-bet/Tbx21 Antibody
Catalog # ABO11308

Specification

Anti-T-bet/Tbx21 Antibody - Product Information

Application	**WB**
Primary Accession	Q9UL17
Host	**Rabbit**
Reactivity	**Human, Mouse, Rat**
Clonality	**Polyclonal**
Format	**Lyophilized**

Description
Rabbit IgG polyclonal antibody for T-box transcription factor TBX21(TBX21) detection. Tested with WB in Human;Mouse;Rat.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-T-bet/Tbx21 Antibody - 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

Calculated MW
58328 MW KDa

Application Details
Western blot, 0.1-0.5 µg/ml, Human, Rat, Mouse

Subcellular Localization
Nucleus.

Tissue Specificity
T-cell specific.

Protein Name
T-box transcription factor TBX21

Contents
Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.

Immunogen
A synthetic peptide corresponding to a sequence at the C-terminus of human T-bet(522-535aa DKEAEGQFYNYFPN), different from the related rat and mouse sequences by one amino acid.

Purification

Immunogen affinity purified.

Cross Reactivity
No cross reactivity with other proteins

Storage	**At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.**

Anti-T-bet/Tbx21 Antibody - 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..

Anti-T-bet/Tbx21 Antibody - Protocols

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

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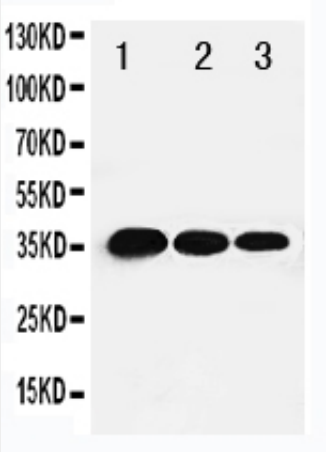
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-T-bet/Tbx21 Antibody - Images



Anti-T-bet/Tbx21 antibody, ABO11308, Western blottingRecombinant Protein Detection Source: E.coli derived -recombinant Human TBX21,34.7KD(162aa tag+ V381-N535)Lane 1: Recombinant Human TBX21 Protein 5ngLane 2: Recombinant Human TBX21 Protein 2.5ngLane 3: Recombinant Human TBX21 Protein 1.25ng

Anti-T-bet/Tbx21 Antibody - Background

TBX21(T-Box 21), also called TBET, is a protein that in humans is encoded by the TBX21 gene. This gene is a member of a phylogenetically conserved family of genes that share a common DNA-binding domain, the T-box. Zhang and Yang(2000) mapped the mouse Tbx21 gene to chromosome 11D in an area showing homology of synteny with human chromosome 17. Szabo et al.(2000) showed that TBX21 expression correlates with IFNG expression in Th1 and natural killer(NK) cells. Ectopic expression of TBX21 both transactivated the IFNG gene and induced endogenous IFNG production. Finotto et al.(2002) observed reduced expression of the T(H)1 transcription factor Tbet in T cells from airways of patients with asthma compared with that in T cells from airways of nonasthmatic patients, suggesting that loss of Tbet might be associated with asthma.