

**TBX21 Antibody (N-term)**  
**Affinity Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP14428a**

**Specification**

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**TBX21 Antibody (N-term) - Product Information**

Application	IF, WB,E
Primary Accession	<a href="#">O9UL17</a>
Other Accession	<a href="#">NP_037483.1</a>
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	58328
Antigen Region	22-50

**TBX21 Antibody (N-term) - 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

**Target/Specificity**

This TBX21 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 22-50 amino acids from the N-terminal region of human TBX21.

**Dilution**

IF~~1:10~50  
WB~~1:1000

**Format**

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

**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**

TBX21 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

**TBX21 Antibody (N-term) - 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 transcriptional 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

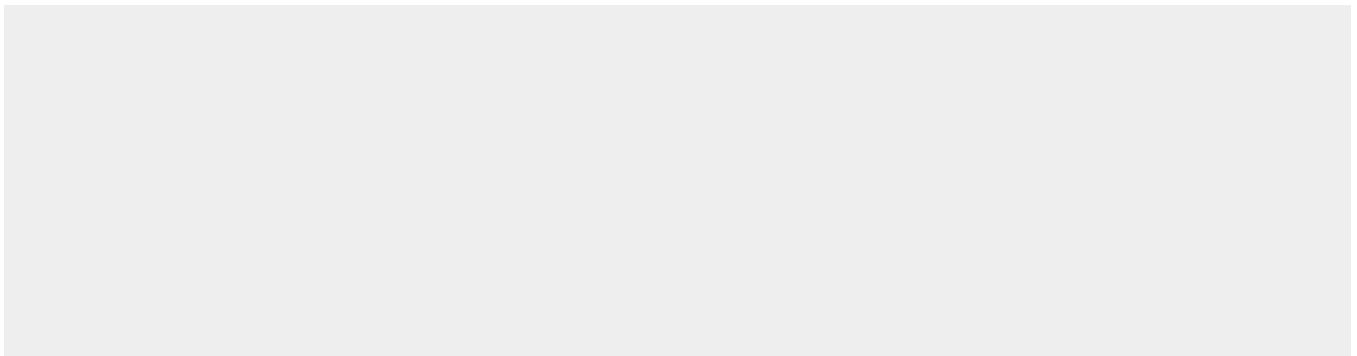
**Tissue Location**

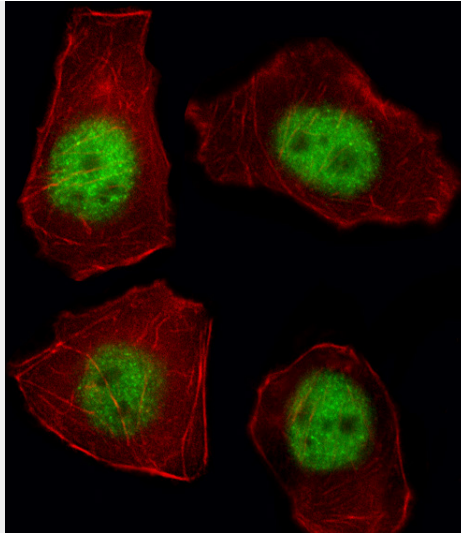
T-cell specific..

**TBX21 Antibody (N-term) - Protocols**

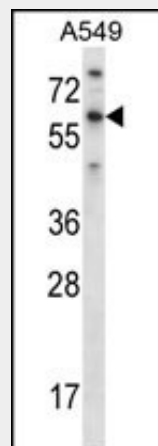
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

**TBX21 Antibody (N-term) - Images**



Fluorescent image of A549 cell stained with TBX21 Antibody (N-term)(Cat#AP14428a).A549 cells were fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.1%, 10 min), then incubated with TBX21 primary antibody (1:25, 1 h at 37°C). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-rabbit antibody (green) was used (1:400, 50 min at 37°C).Cytoplasmic actin was counterstained with Alexa Fluor® 555 (red) conjugated Phalloidin (7units/ml, 1 h at 37°C).TBX21 immunoreactivity is localized to Nucleus significantly.



TBX21 Antibody (N-term) (Cat. #AP14428a) western blot analysis in A549 cell line lysates (35ug/lane).This demonstrates the TBX21 antibody detected the TBX21 protein (arrow).

### **TBX21 Antibody (N-term) - Background**

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.

### **TBX21 Antibody (N-term) - 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)  
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Jugessur, A., et al. PLoS ONE 5 (7), E11493 (2010) :