

Datasheet for ABIN967672

anti-T-Bet antibody

6 Images

10 Publications

[Go to Product page](#)

Overview

Quantity:	0.1 mg
Target:	T-Bet
Reactivity:	Human, Mouse
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This T-Bet antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (Paraffin-embedded Sections) (IHC (p)), Intracellular Staining (ICS)

Product Details

Brand:	BD Pharmingen™
Immunogen:	Mouse T-bet Recombinant Protein
Clone:	4B10
Isotype:	IgG1 kappa
Cross-Reactivity:	Human
Characteristics:	<ol style="list-style-type: none">1. Please refer to us for technical protocols.2. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.3. Since applications vary, each investigator should titrate the reagent to obtain optimal results.4. This product may be covered by US Patent No. 7,365,16

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Purification: The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

Target Details

Target:	T-Bet
Abstract:	T-Bet Products
Background:	The 4B10 monoclonal antibody specifically binds to human and mouse T-bet. T-bet (T-box gene expressed in T cells) is a master regulatory transcription factor that is also known as TBX21 (T-box21) and TBLYM (T-box transcription factor, expressed in lymphocytes). Human (535 amino acids, 58.3 kDa predicted molecular mass) and mouse (530 amino acids, 57.7 kDa) T-bet proteins are encoded by the human TBX21 (chromosome 17) and mouse Tbx21 (chromosome 11) genes. The human and mouse T-bet protein amino acid sequences are 88% homologous. Human and mouse T-bet proteins share a highly conserved (98% homologous amino acid sequences) T-box protein domain that is centrally located and mediates binding to DNA. T-bet is expressed by and activates transcriptional activities within hematopoietic cells including stem cells, NK and NKT cells and subsets of thymocytes, primed/activated CD4+ T cells, CD8+ T cells and gammadelta T cells, B cells, and dendritic cells. Interferon-gamma (IFN-gamma),

Target Details

interleukin-27 (IL-27), and IL-12 act on peripheral antigen-triggered (TCR-signaling) T cells to increase T-bet expression. With respect to T helper lymphocytes, T-bet directs the differentiation of naïve CD4+ precursor T cells to become Th1-like effector and memory cells. T-bet accomplishes this by activating Th1 genetic programs (including epigenetic modifications) while repressing opposing T helper subset programs. T-bet controls the upregulated expression of the Th1 signature cytokine, IFN-gamma, the IL-12Rbeta2 subunit and the Runx3 transcription factor and can repress the function of other transcriptional regulators, such as GATA-3 (master regulator of Th2 development) and the expression of other cytokines including IL-2, IL-4 and IL-5.

Synonyms: T-box expressed in T cells, TBX21, T-box 21, TBLYM

Molecular Weight: 55-65 kDa

Application Details

Comment: Related Products: ABIN967673, ABIN967621, ABIN967389, ABIN968903

Restrictions: For Research Use only

Handling

Format: Liquid

Concentration: 0.5 mg/mL

Buffer: Aqueous buffered solution containing ≤ 0.09 % sodium azide.

Preservative: Sodium azide

Precaution of Use: This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.

Storage: 4 °C

Storage Comment: Store undiluted at 4°C.

Publications

Product cited in: Peng: "The T-box transcription factor T-bet in immunity and autoimmunity." in: **Cellular & molecular immunology**, Vol. 3, Issue 2, pp. 87-95, (2006) ([PubMed](#)).

Hwang, Hong, Glimcher: "IL-2 production in developing Th1 cells is regulated by heterodimerization of RelA and T-bet and requires T-bet serine residue 508." in: **The Journal of**

experimental medicine, Vol. 202, Issue 9, pp. 1289-300, (2005) ([PubMed](#)).

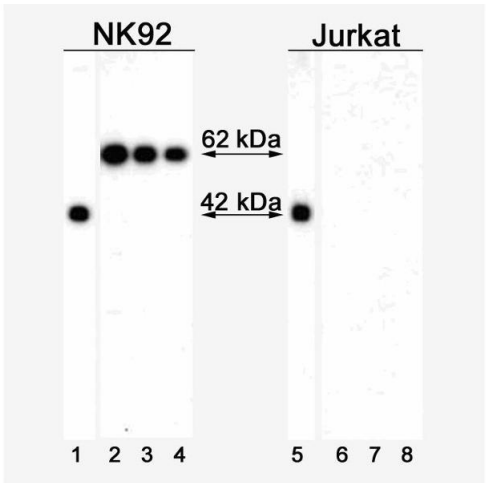
Hwang, Szabo, Schwartzberg, Glimcher: "T helper cell fate specified by kinase-mediated interaction of T-bet with GATA-3." in: **Science (New York, N.Y.)**, Vol. 307, Issue 5708, pp. 430-3, (2005) ([PubMed](#)).

Townsend, Weinmann, Matsuda, Salomon, Farnham, Biron, Gapin, Glimcher: "T-bet regulates the terminal maturation and homeostasis of NK and Valpha14i NKT cells." in: **Immunity**, Vol. 20, Issue 4, pp. 477-94, (2004) ([PubMed](#)).

Hibbert, Pflanz, De Waal Malefyt, Kastelein: "IL-27 and IFN-alpha signal via Stat1 and Stat3 and induce T-Bet and IL-12Rbeta2 in naive T cells." in: **Journal of interferon & cytokine research : the official journal of the International Society for Interferon and Cytokine Research**, Vol. 23, Issue 9, pp. 513-22, (2003) ([PubMed](#)).

There are more publications referencing this product on: [Product page](#)

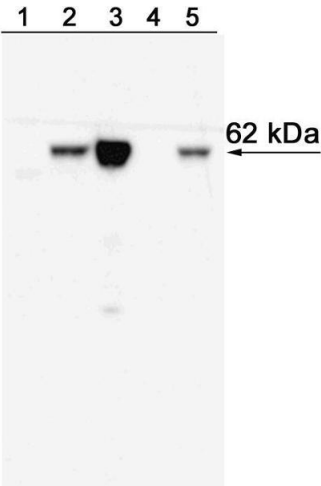
Images



Western Blotting

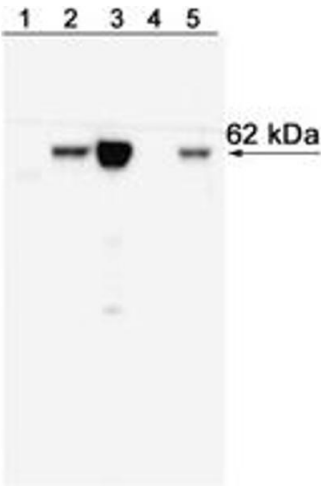
Image 1. Analysis of T-bet Expression by Western Blot and Immunohistochemistry.

Western blot analysis of T-bet expressed by human NK cell and T cell leukemia lines. Cell lysates from untreated NK-92 (Natural Killer cell line, lanes 1-4) and Jurkat (ABIN968537, lanes 5-8) cells (15 µg total cellular protein/lane) were electrophoresed (SDS-PAGE), transferred to membranes and then probed with Purified Mouse anti-T-bet (Clone 4B10, ABIN967672) antibody at concentrations of 0.5 (lanes 2, 6), 0.25 (lanes 3, 7), and 0.125 µg/ml (lanes 4, 8) with Purified Mouse Anti-Actin Ab-5 as a loading control antibody (ABIN968903, 0.083 µg/ml, lanes 1, 5, ~42 kDa band). T-bet is identified as a band of ~62 kDa in the NK-92 cell lysate.



Western Blotting

Image 2. Western blot analysis of T-bet expressed by Mouse Th1 and Th2 cells and Human NK cell and T cell leukemia lines and Peripheral Blood Mononuclear Cells (PBMC). Lysates from mouse D10.G4.1 (Th2, lane 1) and 2D6 (Th1, lane 2) cells and from untreated human NK-92 (lane 3) and Jurkat (lane 4) cells and PBMC (lane 5) were electrophoresed (15 µg total cellular protein/lane), transferred to membranes and blotted with Purified Mouse anti-T-bet (Clone 4B10, ABIN967672) antibody (2 µg/ml). T-bet is identified as a band of ~62 kDa in the mouse 2D6 (Th1), NK-92, and PBMC samples.



Western Blotting

Image 3.

Please check the [product details page](#) for more images. Overall 6 images are available for ABIN967672.