

Datasheet for ABIN967673

anti-T-Bet antibody

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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:	Human T-bet Peptide
Clone:	O4-46
Isotype:	IgG1 kappa
Cross-Reactivity:	Mouse (Murine)
Characteristics:	<ol style="list-style-type: none"> 1. Please refer to us for technical protocols. 2. Since applications vary, each investigator should titrate the reagent to obtain optimal results. 3. 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. 4. This product may be covered by US Patent No. 7,365,16

Product Details

5. Limited Use License: The buyer (a) shall not sell or otherwise transfer this product to any third party, (b) shall use this product only for its internal, non-clinical research use, (c) shall not use this product for Commercial Purposes without a commercial license from Harvard (and if the buyer is interested in a commercial license, it should contact Harvard's Office of Technology Development at 1350 Massachusetts Avenue, Holyoke Center, Suite 727, Cambridge, MA 02138, 617-495-3067), (d) shall use this product in compliance with all applicable laws and regulations, including, without limitation, applicable human health and animal welfare laws and regulations, (e) may transfer information or materials made through the use of this product to a scientific collaborator only if such transfer is not for any Commercial Purpose and such collaborator agrees in writing not to transfer such materials to any third party and to use such transferred materials and/or information solely for internal, non-clinical research and not for Commercial Purposes, (f) acknowledges that this product has not been approved for use in humans by the U.S. Food and Drug Administration or any other regulatory body and may not be used in humans and (g) shall indemnify, defend and hold harmless Becton Dickinson and Company and Harvard from and against all damages, losses, expenses (including reasonable attorneys' fees), claims, demands, suits and other actions in any way arising from the buyer's use, storage or disposal of this product.

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 O4-46 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 hemotopoietic 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-

Target Details

gamma), 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: ABIN967672, 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](#)).

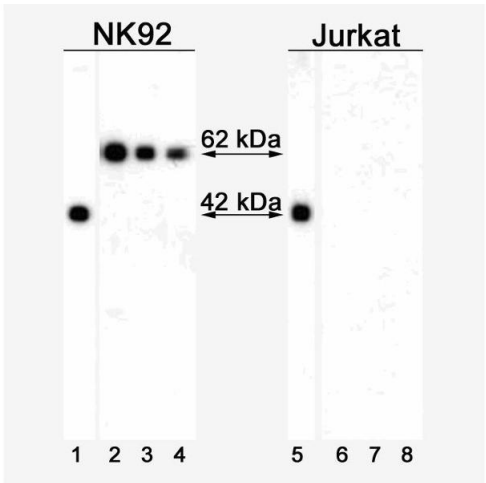
Hwang, Szabo, Schwartzberg, Glimcher: "T helper cell fate specified by kinase-mediated interaction of T-bet with GATA-3." in: **Science (New York, N.Y.)**, Vol. 307, Issue 5708, pp. 430-3, (2005) ([PubMed](#)).

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](#)).

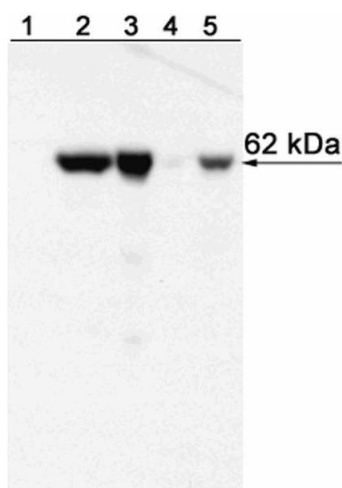
There are more publications referencing this product on: [Product page](#)

Images



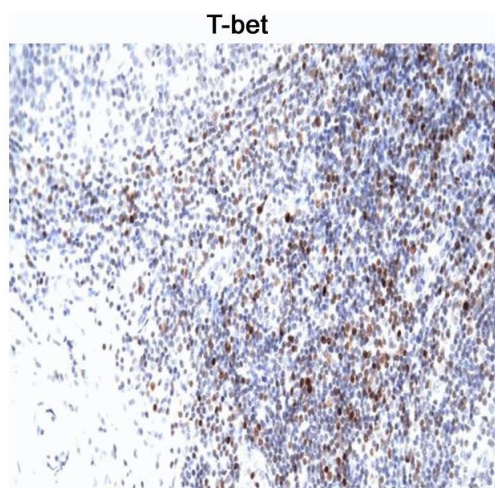
Western Blotting

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 O4-46, ABIN967673) antibody at concentrations of 0.125 (lanes 2, 6), 0.063 (lanes 3, 7), and 0.032 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) and blotted using Purified Mouse anti-T-bet (Clone O4-46, ABIN967673) antibody (1 µg/ml). T-bet is identified as a band of ~62 kDa in the mouse 2D6 (Th1), NK-92, and PBMC samples.



Immunohistochemistry (Paraffin-embedded Sections)

Image 3. T-bet staining of human tonsil. Following antigen retrieval with BD Retrieval A buffer, the formalin-fixed paraffin-embedded sections were stained with either Purified Mouse anti-T-bet monoclonal antibody (Clone O4-46, ABIN967673, Middle second panel) or Purified Mouse IgG1 kappa Isotype Control (second panel), with Hematoxylin counterstaining. T-bet is detected in the nuclei of the T lymphocytes between the lymphoid follicles of the tonsil. Original magnification: 20x.

Please check the [product details page](#) for more images. Overall 6 images are available for ABIN967673.