T-bet (N-19): sc-11330

SANTA CRUZ®

BIOTECHNOLOGY

The Power to Question

BACKGROUND

T helper (Th) lymphocytes differentiate into two unique subsets, Th1 and Th2, which differ both in function and in the cytokines they secrete. Th1 and Th2 cytokines promote the growth and differentiation of their subset, and inhibit the growth and differentiation of the opposing subset. T-bet (T box expressed in T cells) is a Th1-specific T box transcription factor that controls the expression of the Th1 cytokine, IFN-γ. T-bet also converts effector Th2 cells into the opposing Th1 subset. T-bet is selectively expressed in Th1 cells. The level of T-bet expression is increased by signals mediated by the T cell receptor (TCR). IL-12 also induces an increase in the level of T-bet. T-bet was originally isolated from nuclear extracts of resting and PMA/ionomycin-activated AE7 cells. T-bet is expressed in low levels in AE7 cells, and in increased levels in stimulated AE7.

CHROMOSOMAL LOCATION

Genetic locus: TBX21 (human) mapping to 17q21.32; Tbx21 (mouse) mapping to 11 D.

SOURCE

T-bet (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of T-bet of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-11330 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-11330 X, 200 µg/0.1 ml.

APPLICATIONS

T-bet (N-19) is recommended for detection of T-bet of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

T-bet (N-19) is also recommended for detection of T-bet in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for T-bet siRNA (h): sc-36598, T-bet siRNA (m): sc-36599, T-bet shRNA Plasmid (h): sc-36598-SH, T-bet shRNA Plasmid (m): sc-36599-SH, T-bet shRNA (h) Lentiviral Particles: sc-36598-V and T-bet shRNA (m) Lentiviral Particles: sc-36599-V.

T-bet (N-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.
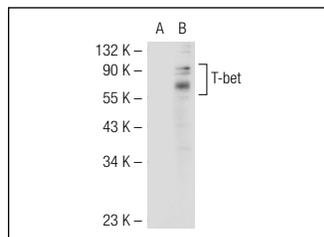
Molecular Weight of T-bet: 62 kDa.

Positive Controls: BJAB nuclear extract: sc-2145, Jurkat nuclear extract: sc-2132 or T-bet (h): 293T Lysate: sc-115503.
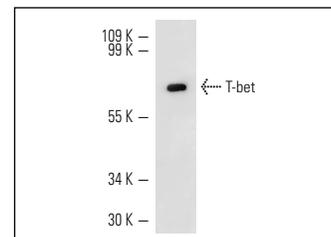
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA

T-bet (N-19): sc-11330. Western blot analysis of T-bet expression in non-transfected: sc-117752 (**A**) and human T-bet transfected: sc-115503 (**B**) 293T whole cell lysates.

Western blot analysis of T-bet expression in BJAB nuclear extract immunoprecipitated with T-bet (4B10): sc-21749 and detected with T-bet (N-19): sc-11330.

SELECT PRODUCT CITATIONS

1. Butler, N.S., et al. 2002. Altered IL-4 mRNA stability correlates with Th1 and Th2 bias and susceptibility to hypersensitivity pneumonitis in two inbred strains of mice. J. Immunol. 169: 3700-3709.

2. Sundrud, M.S., et al. 2003. Genetic reprogramming of primary human T cells reveals functional plasticity in Th cell differentiation. J. Immunol. 171: 3542-3549.

3. Harashima, A., et al. 2005. Transcription factor expression in B-cell precursor-leukemia cell lines: preferential expression of T-bet. Leuk. Res. 29: 841-848.

4. Ishizaki, K., et al. 2007. Th1 and type 1 cytotoxic T cells dominate responses in T-bet overexpression transgenic mice that develop contact dermatitis. J. Immunol. 178: 605-612.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

MONOS
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Try **T-bet (4B10): sc-21749** or **T-bet (D-5): sc-137114**, our highly recommended monoclonal alternatives to T-bet (N-19). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **T-bet (4B10): sc-21749**.