SANTA CRUZ BIOTECHNOLOGY, INC.

T-bet (39D): sc-21763

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 (39D) is a mouse monoclonal antibody raised against full-length recombinant T-bet of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-21763 X, 200 µg/0.1 ml.

APPLICATIONS

T-bet (39D) 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).

Suitable for use as control antibody for T-bet siRNA (h): sc-36598, T-bet siRNA (m): sc-36599, T-bet siRNA (r): sc-270589, T-bet shRNA Plasmid (h): sc-36598-SH, T-bet shRNA Plasmid (m): sc-36599-SH, T-bet shRNA Plasmid (r): sc-270589-SH, T-bet shRNA (h) Lentiviral Particles: sc-36598-V, T-bet shRNA (m) Lentiviral Particles: sc-36599-V and T-bet shRNA (r) Lentiviral Particles: sc-270589-V.

T-bet (39D) 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, T-bet (h): 293T Lysate: sc-115503 or Jurkat nuclear extract: sc-2132.

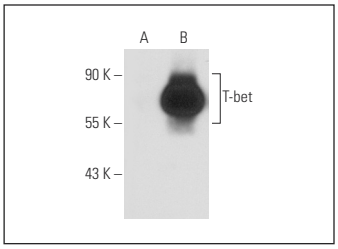
STORAGE

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

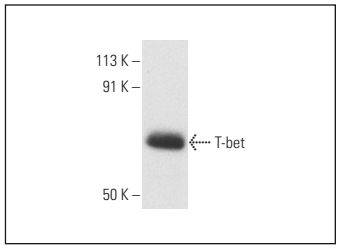
RESEARCH USE

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

DATA



T-bet (39D): sc-21763. 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.



T-bet (39D): sc-21763. Western blot analysis of T-bet expression in BJAB nuclear extract.

SELECT PRODUCT CITATIONS

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2. Yoshimoto, T., et al. 2007. IL-27 suppresses Th2 cell development and Th2 cytokines production from polarized Th2 cells: a novel therapeutic way for Th2-mediated allergic inflammation. J. Immunol. 179: 4415-4423.
3. Shinnakasu, R., et al. 2008. Gfi1-mediated stabilization of GATA3 protein is required for Th2 cell differentiation. J. Biol. Chem. 283: 28216-28225.
4. Di Sabatino, A., et al. 2011. The endogenous cannabinoid system in the gut of patients with inflammatory bowel disease. Mucosal Immunol. 4: 574-583.
5. Tofukuji, S., et al. 2012. Identification of a new pathway for Th1 cell development induced by cooperative stimulation with IL-4 and TGF-β. J. Immunol. 188: 4846-4857.
6. Ahmad, S.F., et al. 2017. STA-21, a Stat3 inhibitor, attenuates the development and progression of inflammation in collagen antibody-induced arthritis. Immunobiology 222: 206-217.
7. Vega-Magaña, N., et al. 2018. Bacterial translocation is linked to increased intestinal IFN-γ, IL-4, IL-17, and mucin-2 in cholestatic rats. Ann. Hepatol. 17: 318-329.
8. Li, L., et al. 2019. Classical dendritic cells regulate acute lung inflammation and injury in mice with lipopolysaccharide-induced acute respiratory distress syndrome. Int. J. Mol. Med. 44: 617-629.
9. Matsumura-Kawashima, M., et al. 2021. Secreted factors from dental pulp stem cells improve Sjögren's syndrome via regulatory T cell-mediated immunosuppression. Stem Cell Res. Ther. 12: 182.

CONJUGATES

See **T-bet (4B10): sc-21749** for T-bet antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.