T-bet (H-210): sc-21003

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BIOTECHNOLOGY

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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 (H-210) is a rabbit polyclonal antibody raised against amino acids 326-535 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.

Available as agarose conjugate for immunoprecipitation, sc-21003 AC, 500 µg/0.25 ml agarose in 1 ml.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-21003 X, 200 µg/0.1 ml.

APPLICATIONS

T-bet (H-210) 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), immunohistochemistry (including paraffin-embedded sections) (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 (H-210) is also recommended for detection of T-bet in additional species, including equine, 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.

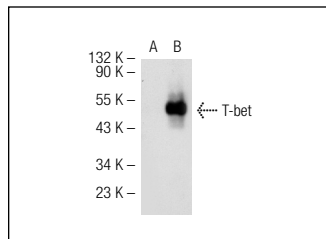T-bet (H-210) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of T-bet: 62 kDa.
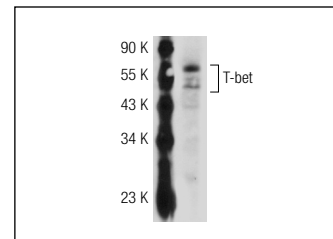
Positive Controls: T-bet (h): 293T Lysate: sc-115503.

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 (H-210): sc-21003. 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 (H-210): sc-21003. Western blot analysis of T-bet expression in BJAB nuclear extract.

SELECT PRODUCT CITATIONS

1. Mehta, D.S., et al. 2005. NFATc2 and T-bet contribute to T-helper-cell-subset-specific regulation of IL-21 expression. Proc. Natl. Acad. Sci. USA 102: 2016-2021.

2. Lu, Y., et al. 2010. New production of eosinophils and the corresponding TH1/TH2 balance in the lungs after allergen exposure in BALB/c and C57BL/6 mice. Scand. J. Immunol. 71: 176-185.

3. Xu, M., et al. 2010. The dynamic changes of T-bet+/GATA-3+ and RORγt+/FOXP3+ cells in recipient spleens and grafts after rat orthotopic liver transplantation. Transpl. Immunol. 22:165-171

4. Jacob, E., et al. 2011. Dual function of polycomb group proteins in differentiated murine T helper (CD4+) cells. J. Mol. Signal. 6: 5.

5. Kirmaz, C., et al. 2011. Effects of allergen-specific immunotherapy on functions of helper and regulatory T cells in patients with seasonal allergic rhinitis. Eur. Cytokine Netw. 22: 15-23.

6. Oestreich, K.J., et al. 2011. The lineage-defining factors T-bet and Bcl-6 collaborate to regulate Th1 gene expression patterns. J. Exp. Med. 208: 1001-1013.

7. Lu, Y., et al. 2011. Expansion of CD4+ CD25+ and CD25- T-Bet, GATA-3, Foxp3 and RORγt cells in allergic inflammation, local lung distribution and chemokine gene expression. PLoS ONE 6: e19889.

RESEARCH USE

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

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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 (H-210). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **T-bet (4B10): sc-21749**.