**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. It is expressed in low levels in AE7 cells, and in increased levels in stimulated AE7.

**REFERENCES**


**CHROMOSOMAL LOCATION**

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

**SOURCE**

T-bet (4B10) is a mouse monoclonal antibody raised against full length recombinant murine T-bet.

**PRODUCT**

Each vial contains 200 µg IgG1 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-21749 X, 200 µg/0.1 ml.

T-bet (4B10) is available conjugated to agarose (sc-21749 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-21749 HRP), 200 µg/ml, for WB, IHC(P) and FC; to either Alexa Fluor® (sc-21749 AF488), Alexa Fluor® 546 (sc-21749 AF546), Alexa Fluor® 594 (sc-21749 AF594) or Alexa Fluor® 647 (sc-21749 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FC; and to either Alexa Fluor® 680 (sc-21749 AF680) or Alexa Fluor® 790 (sc-21749 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FC.

In addition, T-bet (4B10) is available conjugated to either PerCP (sc-21749 PerCP), PerCP-Cy5.5 (sc-21749 PCPC5) or Alexa Fluor® 405 (sc-21749 AF405), 100 tests in 2 ml, for IF, IHC(P) and FC.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

**STORAGE**

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

**APPLICATIONS**

T-bet (4B10) 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), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).


T-bet (4B10) 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 BJAB whole cell lysate: sc-2207.

**DATA**

T-bet (4B10) HRP: sc-21749 HRP. Western blot analysis of T-bet expression in BJAB whole cell lysate (A) and nuclear extract (B).

T-bet (4B10) Alexa Fluor® 680: sc-21749 AF680

GAPDH (G-9) Alexa Fluor® 790: sc-365062 AF790

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

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