SANTA CRUZ BIOTECHNOLOGY, INC.

Stat4 (C-20): sc-486

BACKGROUND

Membrane receptor signaling by various ligands, including interferons and growth hormones such as EGF, induces activation of JAK kinases which then leads to tyrosine phosphorylation of the various Stat transcription factors. Stat1 and Stat2 are induced by IFN-α and form a heterodimer which is part of the ISGF3 transcription factor complex. Although early reports indicate Stat3 activation by EGF and IL-6, it has been shown that Stat3β appears to be activated by both while Stat3α is activated by EGF, but not by IL-6. Highest expression of Stat4 is seen in testis and myeloid cells. IL-12 has been identified as an activator of Stat4. Stat5 has been shown to be activated by prolactin and by IL-3. Stat6 is involved in IL-4 activated signaling pathways.

CHROMOSOMAL LOCATION

Genetic locus: STAT4 (human) mapping to 2q32.2; Stat4 (mouse) mapping to 1 C1.1.

SOURCE

Stat4 (C-20) is available as either rabbit (sc-486) or goat (sc-486-G) polyclonal affinity purified antibody raised against a peptide mapping at the C-terminus of Stat4 of mouse origin.

PRODUCT

Each vial contains either 100 µg (sc-486) or 200 µg (sc-486-G) IgG 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-486 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-486 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Stat4 (C-20) is recommended for detection of Stat4 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).

Stat4 (C-20) is also recommended for detection of Stat4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Stat4 siRNA (h): sc-36568, Stat4 siRNA (m): sc-36569, Stat4 shRNA Plasmid (h): sc-36568-SH, Stat4 shRNA Plasmid (m): sc-36569-SH, Stat4 shRNA (h) Lentiviral Particles: sc-36568-V and Stat4 shRNA (m) Lentiviral Particles: sc-36569-V.

Stat4 (C-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Stat4: 89 kDa.

Positive Controls: mouse testis extract: sc-2405 or rat testis extract: sc-2400.

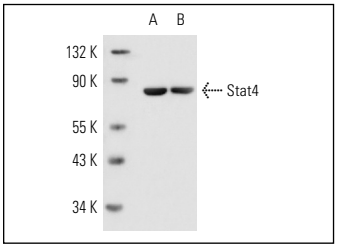
RESEARCH USE

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

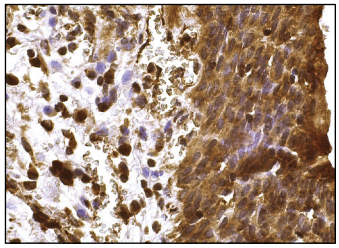
STORAGE

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

DATA



Stat4 (C-20)-G: sc-486-G. Western blot analysis of Stat4 expression in rat testis (**A**) and mouse testis (**B**) tissue extracts



Stat4 (C-20): sc-486. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing nucelear and cytoplasmic staining of urothelial cells. .

SELECT PRODUCT CITATIONS

1. Pallard, C., et al. 1995. Thrombopoietin activates a STAT5-like factor in hematopoietic cells. EMBO J. 14: 2847-2856.
2. Bacon, C.M., et al. 1995. Interleukin 12 induces tyrosine phosphorylation and activation of STAT4 in human lymphocytes. Proc. Natl. Acad. Sci. USA 92: 7307-7311.
3. Ramos, H.J., et al. 2009. Reciprocal responsiveness to interleukin-12 and interferon-α specifies human CD8+ effector versus central memory T-cell fates. Blood 113: 5516-5525.
4. Chang, H.C., et al. 2009. Impaired development of human Th1 cells in patients with deficient expression of STAT4. Blood 113: 5887-5890.
5. Chapgier, A., et al. 2009. A partial form of recessive STAT1 deficiency in humans. J. Clin. Invest. 119: 1502-1514.
6. Placek, K., et al. 2009. Integration of distinct intracellular signaling pathways at distal regulatory elements directs T-bet expression in human CD4+ T cells. J. Immunol. 183: 7743-7751.
7. Hwang, S.S., et al. 2011. Defective GATA-3 expression in Th2 LCR-deficient mice. Biochem. Biophys. Res. Commun. 410: 866-871.
8. Dwivedi, V.P., et al. 2012. Mycobacterium tuberculosis directs T helper 2 cell differentiation by inducing interleukin-1β production in dendritic cells. J. Biol. Chem. 287: 33656-33663.
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