SANTA CRUZ BIOTECHNOLOGY, INC.

Stat5 (H-134): sc-28685

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Signal transducer and activator of transcription 5a (Stat5a) and Stat5b, which share 96% homology, undergo receptor tyrosine kinase or G protein-coupled receptor-dependent phosphorylation in response to cytokines or growth factors, and then form homo- or heterodimers that translocate to the nucleus, where they initiate transcription. Activation of Stat5a via IL-2, IL-3, IL-7 GM-CSF, erythropoietin, thrombopoietin and growth hormones influences proliferation, differentiation and apoptosis in lymphohematopoietic cells. Phosphorylation of Stat5a at Ser 127/Ser 128 and Ser 779 are contigent on ErbB4-mediated activation of Stat5a. Activation of Stat5b via IL-2, IL-4, CSF1 and growth hormones influences TCR signaling, apoptosis, adult mammary gland development and sexual dimorphism of liver gene expression. Stat5b is the major liver-expressed Stat5 form that has been shown to fuse with the retinoic acid receptor a gene in acute promyelocytic leukemias (APLL). Stat5a/b null mice have severely impaired lymphoid development and differentiation.

CHROMOSOMAL LOCATION

Genetic locus: STAT5A/STAT5B (human) mapping to 17q21.2; Stat5a/Stat5b (mouse) mapping to 11 D.

SOURCE

Stat5 (H-134) is a rabbit polyclonal antibody raised against amino acids 661-794 mapping at the C-terminus of Stat5a 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 TransCruz reagent for Gel Supershift and ChIP applications, sc-28685 X, 200 µg/0.1 ml.

APPLICATIONS

Stat5 (H-134) is recommended for detection of Stat5a and Stat5b 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).

Stat5 (H-134) is also recommended for detection of Stat5a and Stat5b in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Stat5 siRNA (h): sc-29495, Stat5 siRNA (m): sc-29496, Stat5 shRNA Plasmid (h): sc-29495-SH, Stat5 shRNA Plasmid (m): sc-29496-SH, Stat5 shRNA (h) Lentiviral Particles: sc-29495-V and Stat5 shRNA (m) Lentiviral Particles: sc-29496-V.

Stat5 (H-134) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

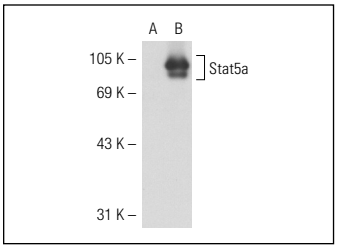
Molecular Weight of Stat5: 92 kDa.

Positive Controls: Stat5a (h3): 293T Lysate: sc-173719, K-562 whole cell lysate: sc-2203 or K-562 nuclear extract: sc-2130.

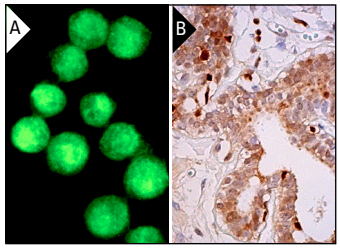
STORAGE

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

DATA



Stat5 (H-134): sc-28685. Western blot analysis of Stat5a expression in non-transfected: sc-117752 (**A**) and human Stat5a transfected: sc-173719 (**B**) 293T whole cell lysates.



Stat5 (H-134): sc-28685. Immunofluorescence staining of methanol-fixed K-562 cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing cytoplasmic and nuclear staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Kirschner, K.M., et al. 2008. The Wilms' tumor suppressor Wt1 activates transcription of the erythropoietin receptor in hematopoietic progenitor cells. FASEB J. 22: 2690-2701.
2. Xing, J., et al. 2010. Granulysin production and anticryptococcal activity is dependent upon a far upstream enhancer that binds STAT5 in human peripheral blood CD4+ T cells. J. Immunol. 185: 5074-5081.
3. Kuadkitkan, A., et al. 2010. Identification and characterization of prohibitin as a receptor protein mediating DENV-2 entry into insect cells. Virology 406: 149-161.
4. Wohlmann, A., et al. 2010. Signal transduction by the atopy-associated human thymic stromal lymphopoietin (TSLP) receptor depends on Janus kinase function. Biol. Chem. 391: 181-186.
5. Kirabo, A., et al. 2011. Vascular smooth muscle JAK2 deletion prevents angiotensin II-mediated neointima formation following injury in mice. J. Mol. Cell. Cardiol. 50: 1026-1034.
6. Nakamura, S., et al. 2012. Down-regulation of Thanatos-associated protein 11 by Bcr-Abl promotes CML cell proliferation through c-Myc expression. Int. J. Cancer 130: 1046-1059.

RESEARCH USE

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