

# Stat5 (N-20): sc-836

## 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 contingent 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 (N-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of Stat5 of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-836 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-836 X, 200 µg/0.1 ml.

## APPLICATIONS

Stat5 (N-20) is recommended for detection of Stat5a and Stat 5b of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Stat5 (N-20) is also recommended for detection of Stat5a and Stat5b in additional species, including equine, canine, bovine, porcine and avian.

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.

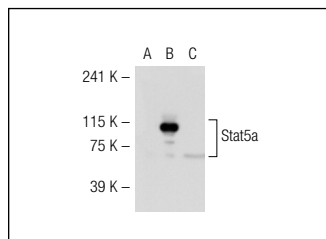
Stat5 (N-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Stat5: 92 kDa.

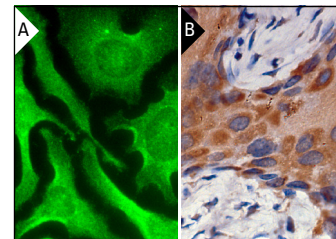
## STORAGE

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

## DATA



Stat5 (N-20): sc-836. Western blot analysis of Stat5a expression in non-transfected 293T: sc-117752 (A), human Stat5a transfected 293T: sc-114013 (B) and K-562 (C) whole cell lysates.



Stat5 (N-20): sc-836. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse lymph node tissue showing cytoplasmic localization (B).

## SELECT PRODUCT CITATIONS

- Schwaller, J., et al. 1998. Transformation of hematopoietic cell lines to growth-factor independence and induction of a fatal myelo- and lympho-proliferative disease in mice by retrovirally transduced TEL/JAK2 fusion genes. *EMBO J.* 17: 5321-5333.
- Tran, T.H., et al. 2010. Prolactin inhibits Bcl6 expression in breast cancer through a Stat5a-dependent mechanism. *Cancer Res.* 70: 1711-1721.
- Friedbichler, K., et al. 2010. Stat5a serine 725 and 779 phosphorylation is a prerequisite for hematopoietic transformation. *Blood* 116: 1548-1558.
- Yu, J.H., et al. 2010. The transcription factors signal transducer and activator of transcription 5A (STAT5A) and STAT5B negatively regulate cell proliferation through the activation of cyclin-dependent kinase inhibitor 2b (Cdkn2b) and Cdkn1a expression. *Hepatology* 52: 1808-1818.
- Della Chiara, G., et al. 2011. Negative regulation of HIV-1 transcription by a heterodimeric NF-κB1/p50 and C-terminally truncated STAT5 complex. *J. Mol. Biol.* 410: 933-943.
- Uluer, E.T., et al. 2012. Effects of 5-fluorouracil and gemcitabine on a breast cancer cell line (MCF-7) via the JAK/STAT pathway. *Acta Histochem.* 114: 641-646.

## RESEARCH USE

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

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Try **Stat5b (G-2): sc-1656** or **Stat5 (A-9): sc-74442**, our highly recommended monoclonal alternatives to Stat5 (N-20). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **Stat5b (G-2): sc-1656**.