

# Stat5b (A-25): sc-130658

## 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 ErbB-4-mediated activation of Stat5a. Activation of Stat5b via IL-2, IL-4, CSF-1 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.

## REFERENCES

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- Mahajan, S., et al. 2001. Transcription factor Stat5a is a substrate of Bruton's tyrosine kinase in B cells. *J. Biol. Chem.* 276: 31216-31228.
- Park, S.H., et al. 2001. Serine phosphorylation of GH-activated signal transducer and activator of transcription 5a (Stat5a) and Stat5b: impact on Stat5 transcriptional activity. *Mol. Endocrinol.* 15: 2157-2171.
- Benitah, S.A., et al. 2003. Stat5a activation mediates the epithelial to mesenchymal transition induced by oncogenic Rho A. *Mol. Biol. Cell* 14: 40-53.
- Behbod, F., et al. 2003. Specific inhibition of Stat5a/b promotes apoptosis of IL-2-responsive primary and tumor-derived lymphoid cells. *J. Immunol.* 171: 3919-3927.
- Snow, J.W., et al. 2003. Loss of tolerance and autoimmunity affecting multiple organs in Stat5a/5b-deficient mice. *J. Immunol.* 171: 5042-5050.
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## CHROMOSOMAL LOCATION

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

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## SOURCE

Stat5b (A-25) is a Protein G purified rabbit polyclonal antibody raised against a synthetic peptide corresponding to amino acids 771-787 of Stat5b of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

Stat5b (A-25) is recommended for detection of Stat5b of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for Stat5b siRNA (h): sc-37010, Stat5b siRNA (m): sc-37011, Stat5b shRNA Plasmid (h): sc-37010-SH, Stat5b shRNA Plasmid (m): sc-37011-SH, Stat5b shRNA (h) Lentiviral Particles: sc-37010-V and Stat5b shRNA (m) Lentiviral Particles: sc-37011-V.

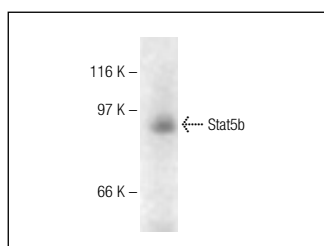
Molecular Weight of Stat5b: 94 kDa.

Positive Jurkat nuclear extract: sc-2132 or BJAB whole cell lysate: sc-2207.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA



Stat5b (A-25): sc-130658. Western blot analysis of Stat5b expression in Jurkat whole cell lysate.

## RESEARCH USE

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