

## Stat5b (C-8): sc-377069



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 Ser127/Ser128 and Ser779 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

Stat5b (C-8) is a mouse monoclonal antibody raised against amino acids 1-49 of Stat5b of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

Stat5b (C-8) is recommended for detection of Stat5b of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for Stat5b siRNA (h): sc-37010, Stat5b siRNA (m): sc-37011, Stat5b siRNA (r): sc-156026, Stat5b shRNA Plasmid (h): sc-37010-SH, Stat5b shRNA Plasmid (m): sc-37011-SH, Stat5b shRNA Plasmid (r): sc-156026-SH, Stat5b shRNA (h) Lentiviral Particles: sc-37010-V, Stat5b shRNA (m) Lentiviral Particles: sc-37011-V and Stat5b shRNA (r) Lentiviral Particles: sc-156026-V.

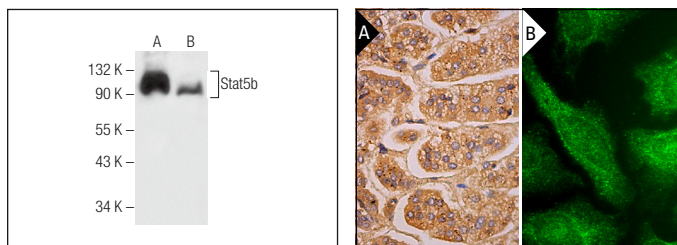
Molecular Weight of Stat5b: 92 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, BJAB whole cell lysate: sc-2207 or Jurkat whole cell lysate: sc-2204.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



Stat5b (C-8): sc-377069. Western blot analysis of Stat5b expression in BJAB (A) and Jurkat (B) whole cell lysates.

Stat5b (C-8): sc-377069. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells (A). Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization (B).

## SELECT PRODUCT CITATIONS

1. Yang, M., et al. 2015. Anti-inflammatory effect of 1,25-dihydroxyvitamin D<sub>3</sub> is associated with crosstalk between signal transducer and activator of transcription 5 and the vitamin D receptor in human monocytes. *Exp. Ther. Med.* 9: 1739-1744.
2. Pitroda, S.P., et al. 2018. JAK2 inhibitor SAR302503 abrogates PD-L1 expression and targets therapy-resistant non-small cell lung cancers. *Mol. Cancer Ther.* 17: 732-739.

## RESEARCH USE

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

## PROTOCOLS

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



See **Stat5b (G-2): sc-1656** for Stat5b antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.