

# Stat5a (C-10): sc-166465

## 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, 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  $\alpha$  gene in acute promyelocytic leukemias (APLL). Stat5a/b null mice have severely impaired lymphoid development and differentiation.

## REFERENCES

1. Lin, J.X., et al. 2000. The role of Stat5a and Stat5b in signaling by IL-2 family cytokines. *Oncogene* 19: 2566-2576.
2. Sexl, V., et al. 2000. Stat5a/b contribute to interleukin 7-induced B cell precursor expansion, but Abl- and Bcr/Abl-induced transformation are independent of Stat5. *Blood* 96: 2277-2283.
3. 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.
4. 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.
5. Benitah, S.A., et al. 2003. Stat5a activation mediates the epithelial to mesenchymal transition induced by oncogenic RhoA. *Mol. Biol. Cell* 14: 40-53.

## CHROMOSOMAL LOCATION

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

## SOURCE

Stat5a (C-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 765-793 at the C-terminus of Stat5a of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain 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-166465 X, 200  $\mu$ g/0.1 ml.

Blocking peptide available for competition studies, sc-166465 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## RESEARCH USE

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

## APPLICATIONS

Stat5a (C-10) is recommended for detection of Stat5a of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (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 Stat5a siRNA (h): sc-37008, Stat5a siRNA (m): sc-37009, Stat5a shRNA Plasmid (h): sc-37008-SH, Stat5a shRNA Plasmid (m): sc-37009-SH, Stat5a shRNA (h) Lentiviral Particles: sc-37008-V and Stat5a shRNA (m) Lentiviral Particles: sc-37009-V.

Stat5a (C-10) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

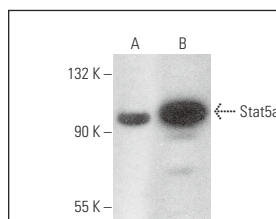
Molecular Weight of Stat5a: 92 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207, K-562 whole cell lysate: sc-2203 or CCRF-CEM cell lysate: sc-2225.

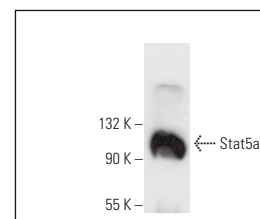
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



Stat5a (C-10): sc-166465. Western blot analysis of Stat5a expression in BJAB (A) and CCRF-CEM (B) whole cell lysates.



Stat5a (C-10): sc-166465. Western blot analysis of Stat5a expression in K-562 whole cell lysate.

## STORAGE

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



See **Stat5a (C-6): sc-271542** for Stat5a antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.