

# **Human STAT5a Antibody**

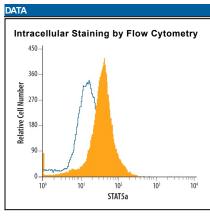
Monoclonal Mouse IgG<sub>1</sub> Clone # 251610 Catalog Number: MAB21741

DESCRIPTION		
Species Reactivity	Human	
Specificity	Detects human STAT5a. This antibody does not cross-react with STAT5b.	
Source	Monoclonal Mouse IgG <sub>1</sub> Clone # 251610	
Purification	Protein A or G purified from hybridoma culture supernatant	
Immunogen	Human STAT5a synthetic peptide SLDSRLSPPAGLFTSARGSLS Accession # NP_003143	
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.	

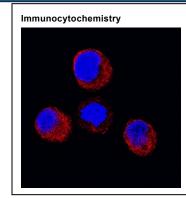
#### APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

	Recommended Concentration	Sample
Immunocytochemistry	8-25 μg/mL	See Below
Intracellular Staining by Flow Cytometry	0.25 μg/10 <sup>6</sup> cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	



Detection of STAT5a in Jurkat Human Cell Line by Flow Cytometry. Jurkat human acute T cell leukemia cell line was stained with Mouse Anti-Human STAT5a Monoclonal Antibody (Catalog # MAB21741, filled histogram) or isotype control antibody (Catalog # MAB002, open histogram), followed by Allophycocyanin-conjugated Anti-Mouse IgG F(ab')<sub>2</sub> Secondary Antibody (Catalog # F0101B). To facilitate intracellular staining, cells were fixed with paraformaldehyde and permeabilized with methanol.



STAT5a in K562 Human Cell Line. STAT5a was detected in immersion fixed K562 human chronic myelogenous leukemia cell line using Mouse Anti-Human STAT5a Monoclonal Antibody (Catalog # MAB21741) at 25 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights ™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

### PREPARATION AND STORAGE

Reconstitution Reconstitute at 0.5 mg/mL in sterile PBS

Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

\*Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C

Stability & Storage Use a

## Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 6 months, -20 to -70 °C under sterile conditions after reconstitution

### BACKGROUND

STAT5a (Signal Transducer and Activator of Transcription-5a) is one of two closely related genes that belong to the STAT family of transcription factors. It is a 91 kDa cytosolic protein that contains an N-terminal domain (with an NES/Nuclear Export Signal) a coiled-coiled region (with an NLS/Nuclear Localization Signal) a DNA-binding site that recognizes a GAS (Gamma-interferon Activated Site) motif, an SH2 domain that allows for dimerization, and a C-terminal transactivation domain. STAT5a likely exists in a quiescent state as a cytoplasmic anti-parallel homodimer. Following activation of both tyrosine and non-tyrosine kinase membrane-bound receptors, STAT5a is phosphorylated, increasing its MW by some 5-6 kDa. Phosphorylated STAT5a will enter the nucleus as either a homodimer (or heterodimer with STAT5b), or as a complex with the intracellular domain of a tyrosine kinase receptor such as ErbB4. Once in the nucleus, STAT5a will form a homotetramer and bind either GAS or GAS-related sequences in gene regulatory regions. Notably, it is suggested that STAT5a may "cycle" through the nucleus without phosphorylation, a process that would seem to involve Importins α3 and β1. STAT5a is related to STAT5b through gene duplication. They show 92% amino acid (aa) sequence identity, with the major differences existing over aa 45-56 and 773-794. The genes are not entirely redundant; STAT5a activates NDGR1 and SH2, while STAT5b regulates the Treg T cell genes, FoxP3 and CD25/IL-2Rα.

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