

#### DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human STAT5a. This antibody does not cross-react with STAT5b.
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # 251610
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Human STAT5a synthetic peptide SLDSRLSPPAGLFTSARGSL Accession # NP_003143
<b>Conjugate</b>	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
<b>Formulation</b>	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.  *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

#### 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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Intracellular Staining by Flow Cytometry</b>	0.25-1 µg/10 <sup>6</sup> cells	Jurkat human acute T cell leukemia cell line fixed with paraformaldehyde and permeabilized with methanol

#### PREPARATION AND STORAGE

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Protect from light. Do not freeze.</b> <ul style="list-style-type: none"> <li>12 months from date of receipt, 2 to 8 °C as supplied.</li> </ul>

#### 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.

#### PRODUCT SPECIFIC NOTICES

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