Datasheet for ABIN1177200

anti-STAT3 antibody (pTyr705) (Alexa Fluor 647)

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Overview

Quantity:	50 tests
Target:	STAT3
Binding Specificity:	pTyr705
Reactivity:	Human, Mouse
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This STAT3 antibody is conjugated to Alexa Fluor 647
Application:	Intracellular Staining (ICS)

Product Details

Brand:	BD Phosflow™
Immunogen:	Phosphorylated Human Stat3 Peptide
Clone:	4-P
Isotype:	IgG2a kappa
Purification:	The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

Target Details

Target:	STAT3
Alternative Name:	Stat3 (STAT3 Products)

Target Details

Background:	Stat (Signal transducer and activators of transcription) proteins are critical mediators of the biologic activity of cytokines, including interleukins, interferons, erythropoietin, and growth factors. Ligand-receptor interaction leads to activation of constitutively associated JAK family kinases and subsequent recruitment/activation of Stat proteins by tyrosine phosphorylation. Active Stat proteins then move to the nucleus to promote transcription of cytokine-inducible genes. Seven Stat proteins have been cloned, each of which is differentially expressed and/or activated in a cytokine-specific and cell type-specific manner. Stat3 is a 92-kDa protein that is activated as a DNA- binding protein through cytokines, such as IL-6, and growth factors, such as EGF. Stat3 activation occurs via tyrosine phosphorylation at Y705. Tyrosine phosphorylation in response to cytokine stimulation is generally mediated by JAK1. Upon activation, Stat3 dimerizes, translocates to the nucleus and binds DNA response elements, thereby regulating gene expression. It has been reported that Stat3 binds to DNA as a homodimer, but it is also capable of binding as a heterodimer with Stat1. In addition to tyrosine phosphorylation, Stat3 is also phosphorylated at S727 via the MAPK pathway. Stat3 is widely expressed and can bind to the sis-inducible element (SIE) site from the c-fos promoter. This site is similar to the GAS element that is present in IFN-gamma induced genes. Thus, phosphorylation of Y705 in Stat3 occurs in response to growth factors and cytokines, and is essential for normal transcription activity. The 4/P-STAT3 monoclonal antibody recognizes the phosphorylated Y705 of Stat3. This antibody is routinely tested by flow cytometric analysis.
Pathways:	JAK-STAT Signaling, RTK Signaling, Interferon-gamma Pathway, Neurotrophin Signaling Pathway, Dopaminergic Neurogenesis, Response to Growth Hormone Stimulus, Carbohydrate Homeostasis, Stem Cell Maintenance, Hepatitis C, Protein targeting to Nucleus, Feeding Behaviour, CXCR4-mediated Signaling Events, Signaling of Hepatocyte Growth Factor Receptor

Application Details

Sample Volume:	20 µL
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	Aqueous buffered solution containing BSA and ≤0.09 % sodium azide.
Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which

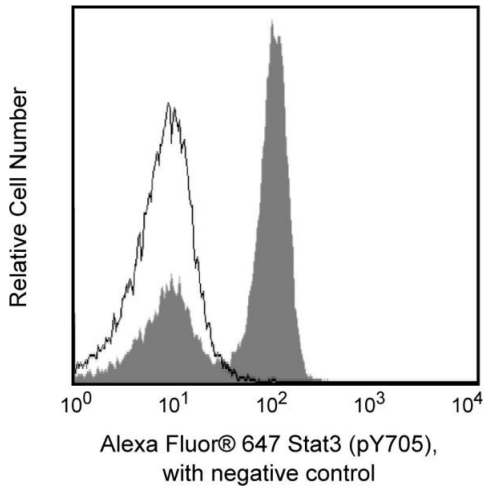
Handling

	should be handled by trained staff only.
Storage:	4 °C
Storage Comment:	Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze. The antibody was conjugated to Alexa Fluor® 647 under optimum conditions, and unreacted Alexa Fluor® 647 was removed.

Publications

Product cited in:	Imada, Leonard: "The Jak-STAT pathway." in: **Molecular immunology**, Vol. 37, Issue 1-2, pp. 1-11, (2000) (PubMed). Bromberg, Darnell: "The role of STATs in transcriptional control and their impact on cellular function." in: **Oncogene**, Vol. 19, Issue 21, pp. 2468-73, (2000) (PubMed). Liu, Gaffen, Goldsmith: "JAK/STAT signaling by cytokine receptors." in: **Current opinion in immunology**, Vol. 10, Issue 3, pp. 271-8, (1998) (PubMed).

Images



Flow Cytometry

Image 1.