Datasheet for ABIN1177194

anti-STAT3 antibody (pSer727) (Alexa Fluor 488)

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Overview

Quantity:	50 tests
Target:	STAT3
Binding Specificity:	pSer727
Reactivity:	Human, Mouse, Rat
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This STAT3 antibody is conjugated to Alexa Fluor 488
Application:	Intracellular Staining (ICS)

Product Details

Brand:	BD Phosflow™
Immunogen:	Phosphorylated Human Stat3
Clone:	49-p
Isotype:	IgG1
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:	The Stat proteins function both as cytoplasmic signal transducers and as activators of transcription. Seven mammalian Stat proteins have been identified: Stat1-4, Stat5a, 5b, and Stat6. 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 is phophorylated at serine 727 (S727) via the MAPK pathway. The S727 residue is located at a conserved Pro-X-Ser-Pro sequence, which is recognized by the protein kinase ERK. Activation through the S727 residue is thought to lead to initiation of transcription. Upon activation, Stat3 dimerizes, translocates to the nucleus, and binds DNA response elements thereby regulating gene expression. It appears that Stat3 binds to DNA as a homodimer, but it is also capable of binding as a heterodimer with Stat1. In addition to serine phosphorylation, Stat3 is also phosphorylated at tyrosine 705 by JAK1 in response to cytokine stimulation. 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-g-induced genes. Thus, phosphorylation of S727 in Stat3 occurs in response to growth factors and cytokines, and is essential for normal transcription activity. The 49/p-Stat3 monoclonal antibody recognizes the S727-phosphorylated form of Stat3 (isoform 1). The fluorochrome-conjugated formats have been evaluated using a human model system. However, the unconjugated form of this antibody (Cat. no. 612542 or 612543) is also effective for western blot analysis of human, mouse, and rat tissue.
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 should be handled by trained staff only.

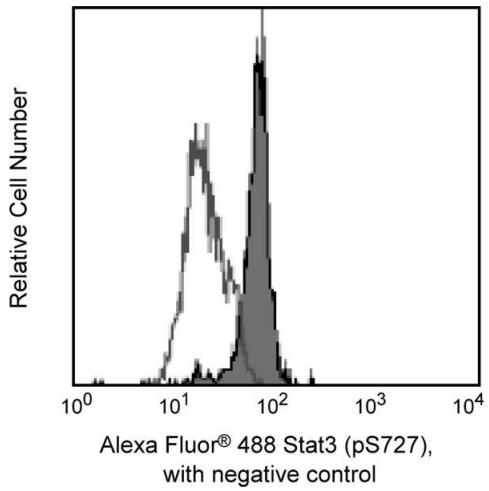
Handling

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® 488 under optimum conditions, and unreacted Alexa Fluor® 488 was removed.

Publications

Product cited in:	Schuringa, Dekker, Vellenga, Kruijer: "Sequential activation of Rac-1, SEK-1/MKK-4, and protein kinase Cdelta is required for interleukin-6-induced STAT3 Ser-727 phosphorylation and transactivation." in: **The Journal of biological chemistry**, Vol. 276, Issue 29, pp. 27709-15, (2001) (PubMed). Smith, Crompton: "Expression of v-src in mammary epithelial cells induces transcription via STAT3." in: **The Biochemical journal**, Vol. 331 (Pt 2), pp. 381-5, (1998) (PubMed). Fu, Zhang: "Transcription factor p91 interacts with the epidermal growth factor receptor and mediates activation of the c-fos gene promoter." in: **Cell**, Vol. 74, Issue 6, pp. 1135-45, (1993) (PubMed).

Images



Flow Cytometry

Image 1.