Technical Data Sheet

PE Mouse anti-Stat6

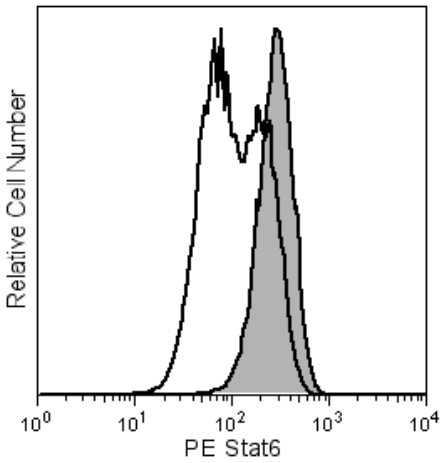
Product Information

Material Number:	**560001**
Size:	50 tests
Vol. per Test:	20 µl
Clone:	23/Stat6
Immunogen:	Human Stat6 C-terminal Recombinant Protein
Isotype:	Mouse IgG1
Reactivity:	Confirmed by flow cytometry: Human Confirmed by western blot using purified antibody (Cat. No. 611290 or 611291): Cow, Human, Mouse, Rat
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

STATs (signal transducers and activators of transcription) are critical mediators of the biologic activity of cytokines including Interleukins (IL) 2-5, IL-7, IL-15, GM-CSF, erythropoietin and growth hormone. Ligand-receptor interaction leads to activation of constitutively associated JAK family kinases and subsequent recruitment/activation of STATs by tyrosine phosphorylation. Active STATs 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. Stat6 plays an important role in signaling pathways that lead to the differentiation of T helper type 2 (Th2) cells from uncommitted CD4 T cell precursors. Moreover, IL-4, secreted by activated T lymphocytes, basophils, and mast cells, induces specific gene expression via the induction of tyrosine phosphorylation of Stat6 at tyrosine 641 (Y641). The SH3:SH2 domain of Stat6 associates with tyrosine-phosphorylated IL-4 receptor and the proximal Jak kinase phosphorylates Stat6 at Y641 on the C-terminal side of the SH2 domain. Stat6 is then released from the receptor, dimerizes, and is thought to contact the basal transcription machinery by binding to p300/CBP. While Stat6 is widely expressed in human tissues, it exhibits elevated expression in peripheral blood lymphocytes, colon, intestine, ovary, prostate, thymus, spleen, kidney, liver, lung, and placenta.

The 23/Stat6 monoclonal antibody recognizes Stat6, regardless of phosphorylation status.



Analysis of Stat6 in human colon adenocarcinoma. *HT-29 cells (ATCC HTB-38) were either transfected with Stat6 RNAi (open histogram) or untreated (shaded histogram). The cells were fixed (BD Cytofix™ buffer, Cat. No. 554655) for 10 minutes at 37°C, then permeabilized (BD™ Phosflow Perm Buffer III, Cat. No. 558050) on ice for 30 minutes, and then stained with PE Mouse anti-Stat6. Down-regulation of Stat6 expression is evident in the RNAi-transfected cells. Flow cytometry was performed on a BD FACSArray™ bioanalyzer system.*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
The antibody was conjugated with R-PE under optimum conditions, and unconjugated antibody and free PE were removed.
Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

Application Notes

Application

Intracellular staining (flow cytometry)	Routinely Tested

BD Biosciences

bdbiosciences.com

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	888.268.5430	32.53.720.550	0120.8555.90	65.6861.0633	0800.771.7157

For country-specific contact information, visit **bdbiosciences.com/how_to_order/**

Suggested Companion Products

Catalog Number	Name	Size	Clone
559320	PE Mouse IgG1, κ Isotype Control	100 tests	MOPC-21
554655	Fixation Buffer	100 ml	(none)
558050	Perm Buffer III	125 ml	(none)

Product Notices

1. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
2. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1 × 10^6 cells in a 100-µl experimental sample (a test).
3. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.
4. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
5. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Bartoli M, Gu X, Tsai NT, et al. Vascular endothelial growth factor activates STAT proteins in aortic endothelial cells. *J Biol Chem.* 2000; 275(43):33189-33192. (Clone-specific: Immunofluorescence, Immunoprecipitation, Western blot)

Bromberg J, Darnell JE. The role of STATs in transcriptional control and their impact on cellular function. *Oncogene.* 2000; 19(21):2468-2473. (Biology)

Dent AL, Hu-Li J, Paul WE, Staudt LM. T helper type 2 inflammatory disease in the absence of interleukin 4 and transcription factor STAT6. *Proc Natl Acad Sci U S A.* 1998; 95(23):13823-13828. (Biology)

Heim MH. The Jak-STAT pathway: specific signal transduction from the cell membrane to the nucleus. *Eur J Clin Invest.* 1996; 26(1):1-12. (Clone-specific)

Hou J, Schindler U, Henzel WJ, Ho TC, Brasseur M, McKnight SL. An interleukin-4-induced transcription factor: IL-4 Stat. *Science.* 1994; 265(5179):1701-1706. (Biology)

Mikita T, Campbell D, Wu P, Williamson K, Schindler U. Requirements for interleukin-4-induced gene expression and functional characterization of Stat6. *Mol Cell Biol.* 1996; 16(10):5811-5820. (Biology)

Quelle FW, Shimoda K, Thierfelder W, et al.. Cloning of murine Stat6 and human Stat6, Stat proteins that are tyrosine phosphorylated in responses to IL-4 and IL-3 but are not required for mitogenesis. *Mol Cell Biol.* 1995; 15(6):3336-3343. (Biology)

Waite KJ, Floyd ZE, Arbour-Reily P, Stephens JM. Interferon-gamma-induced regulation of peroxisome proliferator-activated receptor gamma and STATs in adipocytes. *J Biol Chem.* 2001; 276(10):7062-7068. (Clone-specific: Western blot)

Xia Z, Salzler RR, Kunz DP, et al. A novel serine-dependent proteolytic activity is responsible for truncated signal transducer and activator of transcription proteins in acute myeloid leukemia blasts. *Cancer Res.* 2001; 61(4):1747-1753. (Clone-specific: Western blot)