Technical Data Sheet

PE Mouse Anti-Mouse Stat6 (pY641)

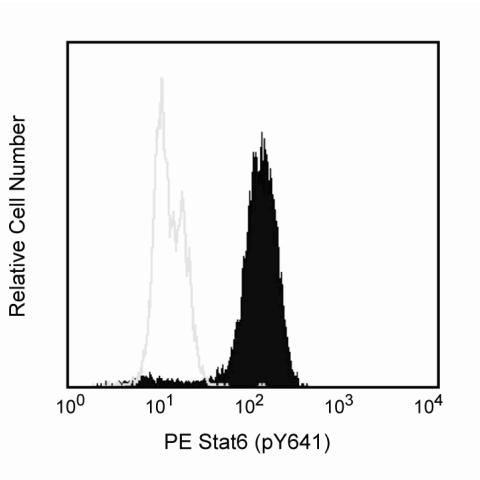
Product Information

Material Number:	**558252**
Size:	50 tests
Vol. per Test:	20 µl
Clone:	J71-773.58.11
Immunogen:	Phosphorylated Mouse STAT6 (Y641) Peptide
Isotype:	Mouse IgG1, κ
Reactivity:	QC Testing: Mouse
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 J71-773.58.11 antibody recognizes mouse Stat6 phosphorylated at Y641.



Analysis of Stat6 (pY641) in activated mouse B lymphocytes. *Mouse M12 B lymphoma cells were either stimulated with mouse IL-4 (Cat. No. 550067) at 37˚C for 15 minutes (filled histogram) or unstimulated (open histogram). The cells were fixed with BD Phosflow™ Fix Buffer I (Cat. No. 557870) at 37˚C for 10 minutes, permeabilized in BD Phosflow™ Perm Buffer III (Cat. No. 558050) on ice for at least 30 minutes (or overnight at -20˚C), and stained with PE anti-mouse Stat6 (pY641) (clone J71-773.58.11). Flow cytometry was performed on a BD FACSCalibur™ instrument.*

Preparation and Storage

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

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.

Application Notes

Application

Intracellular staining (flow cytometry)	Routinely Tested

Recommended Assay Procedure:

Note: For flow cytometric analysis of human cells, PE Mouse Anti-Human Stat6 (pY641) mAb (clone 18) (Cat. No. 612701) is recommended.

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Suggested Companion Products

Catalog Number	Name	Size	Clone
550067	Recombinant Mouse IL-4	10 µg	(none)
557870	Fix Buffer I	250 ml	(none)
558050	Perm Buffer III	125 ml	(none)
559320	PE Mouse IgG1, κ Isotype Control	100 tests	MOPC-21
612701	PE Mouse Anti- Stat6 (pY641)	50 tests	18/P-Stat6

Product Notices

1. 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).
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
5. 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.
6. An isotype control should be used at the same concentration as the antibody of interest.

References

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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. (Biology)

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)

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