

Technical Data Sheet

PE Mouse Anti-Stat1 (pY701)

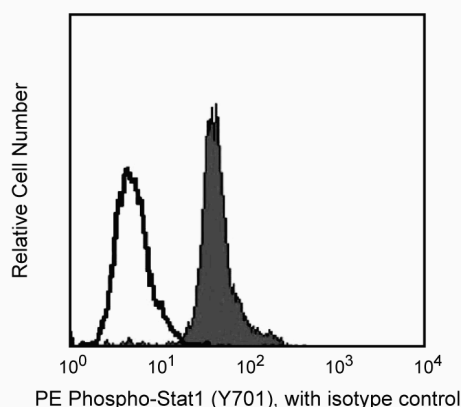
Product Information

Material Number:	562069
Size:	250 tests
Vol. per Test:	5 µl
Clone:	4a
Immunogen:	Phosphorylated Human Stat1 Peptide
Isotype:	Mouse IgG2a
Reactivity:	QC Testing: Human Tested in Development: Mouse
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

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. Stat1 and Stat2 are components of the ISGF3 (Interferon-Stimulated Gene Factor 3) complex, which is the primary transcription activator induced by the binding of the interferon to a specific cell-surface receptor. Stat1 has two alternatively spliced isoforms, 91-kDa Stat1 α and 84-kDa Stat1 β ; Stat1 α has 38 additional C-terminal amino acids. In response to the binding of IFN α , IFN γ , EGF, PDGF, or CSF-1 to their respective receptors, the Stat1 subunits become tyrosine-phosphorylated at Y701, and the complex is translocated to the nucleus. This results in the formation of an active complex that includes the DNA-binding p48 subunit. This complex is responsible for modulating the transcription of the interferon-stimulated genes (ISGs).

The 4a monoclonal antibody recognizes the phosphorylated Y701 in Stat1 α and Stat1 β .

**Flow cytometric analysis of phospho-Stat1 (pY701).**

Human histiocytic lymphoma cells (U937) were either left unstimulated (unshaded) or stimulated (shaded) with 1000 U/ml BD Pharmingen™ Recombinant Human IFN γ (cat. No. 554617) for 15 minutes at 37°C. Cells were fixed in 2% paraformaldehyde/PBS (10 minutes at 37°C) and then permeabilized in BD Phosflow™ Perm Buffer III (30 minutes on ice or overnight at -20°C). Cells were then washed twice in BD Pharmingen™ Stain Buffer (Cat. No. 554656) and stained with PE-conjugated phospho-Stat1 (pY701) antibody. The cells were analyzed on a BD FACSCalibur™ flow cytometer.

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

Recommended Assay Procedure:

For more information on intracellular flow cytometry and appropriate buffer selection please visit

<http://www.bdbiosciences.com/support/resources/phosflow/index.jsp> and <http://www.cytobank.org/facselect/>

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Suggested Companion Products

Catalog Number	Name	Size	Clone
554655	Fixation Buffer	100 ml	(none)
558050	Perm Buffer III	125 ml	(none)
554656	Stain Buffer (FBS)	500 ml	(none)
554617	Recombinant Human IFN- γ	50 μ g	(none)

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- μ l experimental sample (a test).
2. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
3. Please refer to www.bdbiosciences.com/pharmlingen/protocols for technical protocols.
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.
6. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.

References

Bromberg J, Darnell JE. The role of STATs in transcriptional control and their impact on cellular function. *Oncogene*. 2000; 19(21):2468-2473. (Biology)
Darnell JE Jr. STATs and gene regulation. *Science*. 1997; 277(5332):1630-1635. (Biology)
Fu XY, Zhang JJ. Transcription factor p91 interacts with the epidermal growth factor receptor and mediates activation of the c-fos gene promoter. *Cell*. 1993; 74(6):1135-1145. (Biology)