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Product Data Sheet: Purified anti-phospho-Stat1 (Tyr701) rabbit mAb

Catalog Number:	2221
Clone:	Stat1Y701-3E6
Isotype:	Rabbit IgG1κ
Immunogen:	A synthetic phospho-peptide corresponding to residues surrounding Tyr701 of human phospho Stat1
Reactivity:	Mouse,Human
Cross Reactivity:	Predicted to work with mouse, rat, and other homologues.
Preparation:	Protein A+G
Formulation:	1X PBS, 0.02% NaN3, 50% Glycerol, 0.1% BSA
Applications:	Flow Cytometry
Recommended Usage:	1.0 - 0.1 µg/ml. Optimum concentration should be determined by the user.
Product Configuration:	200 ul (0.5mg/ml)
Detection:	Anti-Rabbit IgG

Description

Stat1 is a signal transducer and transcription activator that mediates cellular responses to interferons (IFNs), cytokine KITLG/SCF and other cytokines and other growth factors. Following type I IFN (IFN-alpha and IFN-beta) binding to cell surface receptors, signaling via protein kinases leads to activation of Jak kinases (TYK2 and JAK1) and to tyrosine phosphorylation of STAT1 and STAT2. The phosphorylated STATs dimerize and associate with ISGF3G/IRF-9 to form a complex termed ISGF3 transcription factor, that enters the nucleus. ISGF3 binds to the IFN stimulated response element (ISRE) to activate the transcription of IFN-stimulated genes (ISG), which drive the cell in an antiviral state. In response to type II IFN (IFN-gamma), phospho Stat1 is tyrosine- and serine-phosphorylated. It then forms a homodimer termed IFN-gamma-activated factor (GAF), migrates into the nucleus and binds to the IFN gamma activated sequence (GAS) to drive the expression of the target genes, inducing a cellular antiviral state. Phospho Stat1 becomes activated in response to KITLG/SCF and KIT signaling and may mediate cellular responses to activated FGFR1, FGFR2, FGFR3 and FGFR4.

References

1. Liu B, et al. (1998) Proc. Natl. Acad. Sci. U.S.A. 95:10626-10631.

2. Ungureanu D, et al (2003) Blood 102:3311-3313.

3. Rogers R.S., et al. (2003) J. Biol. Chem. 278:30091-30097.

4. DeVries T.A., et al. (2004) J. Biol. Chem. 279:45603-45612.

5. Krejci P., et al. (2008) PLoS ONE 3:E3961-E3961.

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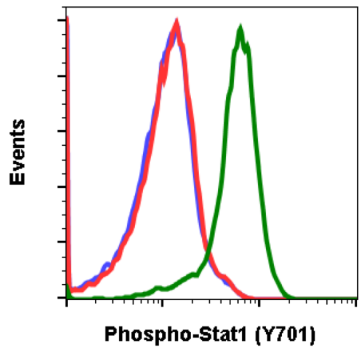
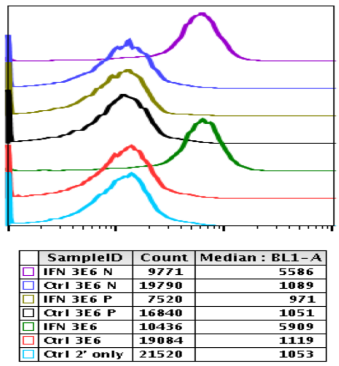
Purified anti-phospho-Stat1 (Tyr701) rabbit mAb Images

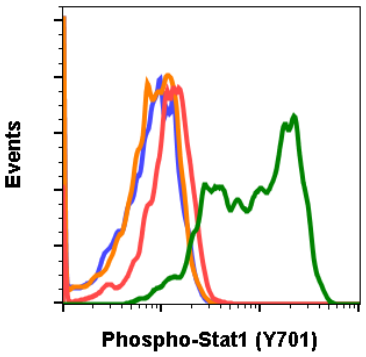


Flow cytometric analysis of U937 cells, secondary antibody only negative control (blue) or untreated (red) or treated with IFNα, IL-4 and pervanadate (green) using Phospho-Stat1 (Tyr701) antibody Stat1Y701-3E6 at 0.005 µg/mL Cat. #2221.



SampleID	Count	Median : BL1-A
IFN 3E6 N	9771	5586
Ctrl 3E6 N	19790	1089
IFN 3E6 P	7520	971
Ctrl 3E6 P	16840	1051
IFN 3E6	10436	5909
Ctrl 3E6	19084	1119
Ctrl 2° only	21520	1053

Peptide blocking flow cytometric analysis of U937 cells, secondary antibody only negative control (light blue) or untreated (red) or treated with IFNα, IL-4 and pervanadate (green) or untreated and blocked with phospho-peptide (black) or treated and blocked with phospho peptide (gold) or untreated and blocked with non-phospho peptide (dark blue) or treated and blocked with non-phospho peptide (purple) using Phospho-Stat1 (Tyr701) antibody Stat1Y701-3E6 at 0.1µg/mL. Cat. #2221.



Flow cytometric analysis of NIH3T3 cells, secondary antibody only negative control (blue) or 0.1 µg/mL of isotype control Cat. #2141 (orange), or treated with imatinib (red) or with pervanadate (green) using Phospho-Stat1 (Tyr701) antibody Stat1Y701-3E6 at 0.1 µg/mL. Cat #2221.