

## Alexa Fluor® 488 anti-STAT4 Phospho (Tyr693) Antibody

<b>Catalog# / Size</b>	941207 / 25 tests 941208 / 100 tests
<b>Clone</b>	A19016A
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	Signal Transducer and Activator Of Transcription 4, SLEB11, Signal Transducer and Activator of Transcription 4 Variant 3
<b>Isotype</b>	Mouse IgG1, κ

**Description**

The signal transducer and activator of transcription (STAT) family of transcription factors are DNA-binding proteins required for transcriptional regulation of several cellular and physiological processes in response to cytokine and growth factor stimulation. Inactive STAT proteins are present as cytosolic monomers. C-terminal tyrosine phosphorylation by upstream Janus kinases results in STAT dimerization, translocation to the nucleus, and increased affinity for response elements found in the regulatory promoter of STAT target genes.

In contrast to most other members of the STAT family, STAT4 expression is restricted to hematopoietic cells and responds to fewer cytokines, such as IL-12 and IL-2. STAT4, which requires phosphorylation at tyrosine 693 for activation, plays a pivotal role in the differentiation and proliferation of Th1 and Th17 cells, both of which are crucial effectors of chronic autoimmune disorders. In natural killer cells, STAT4 is required for normal development, maturation, and activation. Single nucleotide polymorphisms of STAT4 are implicated in the pathogenesis of systemic lupus erythematosus and rheumatoid arthritis, and are linked with increased risk of hepatocellular carcinoma.

### Product Details

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<b>Verified Reactivity</b>	Human
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Immunogen</b>	Synthetic peptide corresponding to human STAT4 phosphorylated at tyrosine 693
<b>Formulation</b>	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA)
<b>Preparation</b>	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor® 488 under optimal conditions.
<b>Concentration</b>	Lot-specific (to obtain lot-specific concentration and expiration, please enter the lot number in our <a href="#">Certificate of Analysis</a> online tool.)
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. <b>Do not freeze.</b>
<b>Application</b>	<a href="#">ICFC - Quality tested</a>
<b>Recommended Usage</b>	Each lot of this antibody is quality control tested by <a href="#">intracellular immunofluorescent staining with flow cytometric analysis</a> . For flow cytometric staining, the suggested use of this reagent is 5 µL per million cells in 100 µL staining volume or 5 µL per 100 µL of whole blood. It is recommended that the reagent be titrated for optimal performance for each application.  * Alexa Fluor® 488 has a maximum emission of 519 nm when it is excited at 488 nm.  Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation.  <a href="#">View full statement regarding label licenses</a>
<b>Excitation Laser</b>	Blue Laser (488 nm)

## Application Notes

This antibody is predicted to recognize mouse STAT4 phosphorylated at tyrosine 694 and rat STAT4 phosphorylated at tyrosine 693 due to complete sequence homology between the immunizing peptide and the respective murine STAT4 orthologs.

For use in Intracellular Flow Cytometry (ICFC), we recommend fixation/permeabilization with the True-Phos™ Perm Buffer (Cat. No. 425401).

## RRID

AB\_3675200 (BioLegend Cat. No. 941207)  
AB\_3675200 (BioLegend Cat. No. 941208)

## Antigen Details

### Structure

STAT4 is a 748 amino acid protein with predicted molecular weight of 86 kD.

### Distribution

Hematopoietic cells/Nucleocytoplasmic localization

### Function

Transcription factor, cell signaling

### Biology Area

Cell Biology, Signal Transduction, Transcription Factors

### Antigen References

Trinchieri G, *et al.* 2003. *Nat. Rev. Immunol.* 3:133.  
Remmers EF, *et al.* 2007. *N. Engl. J. Med.* 357:977.  
Mukasa R, *et al.* 2010. *Immunity.* 32:616  
Rapp M, *et al.* 2017. *Sci. Immunol.* 2:3296.

### Gene ID

[6775](#)

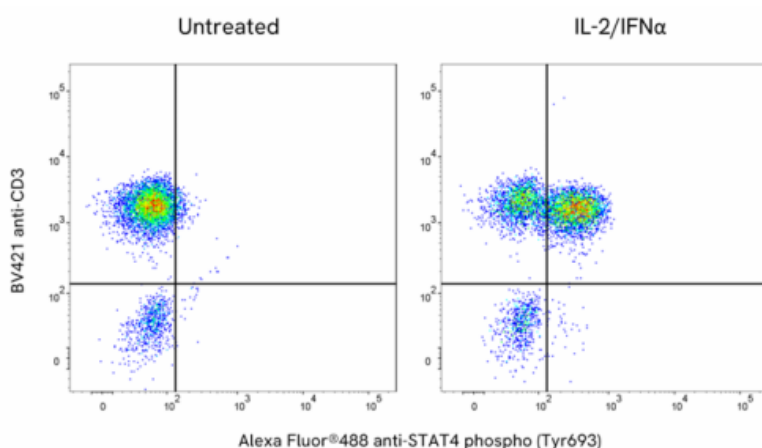
## Related Protocols

- [Intracellular Flow Cytometry Staining Protocol](#)

## Other Formats

Purified anti-STAT4 Phospho (Tyr693) Antibody, Alexa Fluor® 647 anti-STAT4 Phospho (Tyr693), PE anti-STAT4 Phospho (Tyr693), Alexa Fluor® 488 anti-STAT4 Phospho (Tyr693)

## Product Data



Human PBMCs pre-treated overnight with Cell Activation Cocktail (Cat. No. 423301) and then treated with (positive control, right plot) or without (negative control, left plot) Human IL-2 (Cat. No. 791925) and IFN $\alpha$ 2 (Cat. No. 592708). Cells were then fixed and permeabilized using True Phos™ Perm Buffer (Cat. No. 425401) and intracellularly stained with Alexa Fluor® 488 anti-STAT4 Phospho (Tyr693) (clone A19016A). Cells were co-stained with Brilliant Violet 421™ anti-CD3 (Cat. No. 300434).

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