

## Brilliant Violet 421™ anti-STAT3 Phospho (Tyr705) Antibody

<b>Catalog# / Size</b>	651009 / 25 tests 651010 / 100 tests
<b>Clone</b>	13A3-1
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	Signal transducer and activator of transcription 3, Acute-phase response factor, APRF, HIES
<b>Isotype</b>	Mouse IgG1, κ
<b>Description</b>	Tyrosine phosphorylation of STAT3 at Tyr705 occurs in response to LIF, IL-6, leptin, OSM, EGF, PDGF, and HGF. It plays a key role in cell growth and apoptosis through mediating expression of a variety of genes in response to the stimuli.

### Product Details

---

<b>Verified Reactivity</b>	Human, Mouse
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Immunogen</b>	KLH conjugated modified synthetic peptide
<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 Brilliant Violet 421™ under optimal conditions.
<b>Concentration</b>	Lot-specific (to obtain lot-specific concentration, please enter the lot number in our <a href="#">Concentration and Expiration Lookup</a> or <a href="#">Certificate of Analysis</a> online tools.)
<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>	<p>Each lot of this antibody is quality control tested by intracellular flow cytometry using our <a href="#">True-Phos™ Perm Buffer in Whole Blood Protocol</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.</p> <p>Brilliant Violet 421™ excites at 405 nm and emits at 421 nm. The standard bandpass filter 450/50 nm is recommended for detection. Brilliant Violet 421™ is a trademark of Sirigen Group Ltd.</p> <p><a href="#">Learn more about Brilliant Violet™.</a></p> <p>This product is subject to proprietary rights of Sirigen Inc. and is made and sold under license from Sirigen Inc. The purchase of this product conveys to the buyer a non-transferable right to use the purchased product for research purposes only. This product may not be resold or incorporated in any manner into another product for resale. Any use for therapeutics or diagnostics is strictly prohibited. This product is covered by U.S. Patent(s), pending patent applications and foreign equivalents.</p>
<b>Excitation Laser</b>	Violet Laser (405 nm)
<b>Application Notes</b>	The STAT3 Phospho (Tyr705) antibody recognizes the regulatory tyrosine phosphorylation of human STAT3 protein and has been shown to be useful for Western blotting.
<b>Product Citations</b>	<ol style="list-style-type: none"><li>Golebski K, <i>et al.</i> 2019. Nat Commun. 10:2162. <a href="#">PubMed</a></li><li>Ligorio M, <i>et al.</i> 2019. Cell. 178:160. <a href="#">PubMed</a></li><li>Rivadeneira DB, <i>et al.</i> 2020. Immunity. 51(3):548-560. <a href="#">PubMed</a></li><li>Hering L, <i>et al.</i> 2020. Front Immunol. 1.747222222. <a href="#">PubMed</a></li><li>Golebski K, <i>et al.</i> 2021. Immunity. 54(2):291-307.e7. <a href="#">PubMed</a></li></ol>

RRID AB\_2572087 (BioLegend Cat. No. 651009)  
AB\_2572088 (BioLegend Cat. No. 651010)

## Antigen Details

<b>Structure</b>	STAT3 is a 770 amino acid protein of 88 kD. It consists of a DNA binding domain, a SH2 domain, a regulatory tyrosine responsible for binding of SH2 domain, and a C-terminal transactivation domain.
<b>Distribution</b>	Ubiquitous.
<b>Function</b>	STAT3 is tyrosine phosphorylated by receptor kinases in response to a variety of cytokines and growth factors. It forms homo- or heterodimer with STAT1 when tyrosine is phosphorylated, and then translocates to nucleus, acting as a transcription regulator. It is also essential for the differentiation of TH17 cells, which is involved in autoimmune diseases.
<b>Cell Sources</b>	Cytoplasm. Translocate to nucleus in response to tyrosine phosphorylation.
<b>Cell Type</b>	Embryonic Stem Cells, Neural Stem Cells
<b>Biology Area</b>	Cell Biology, Neuroscience, Neuroscience Cell Markers, Signal Transduction, Stem Cells, Synaptic Biology, Transcription Factors
<b>Molecular Family</b>	Phospho-Proteins
<b>Antigen References</b>	<ol style="list-style-type: none"><li>1. Akira S, <i>et al.</i> 1994. <i>Cell</i> 77:63.</li><li>2. Zhang X, <i>et al.</i> 1995. <i>Science</i> 267:1990.</li><li>3. Sanchez-Margalet V, <i>et al.</i> 2001. <i>Cell. Immunol.</i> 211:30.</li><li>4. Simon A, <i>et al.</i> 2000. <i>Science</i> 290:144.</li><li>5. Hoey T, <i>et al.</i> 1999. <i>Adv. Immunol.</i> 71:145.</li></ol>
<b>Regulation</b>	The small GTPase Rac1 binds and regulates activity of STAT3.
<b>Gene ID</b>	<a href="#">6774</a>

## Related Protocols

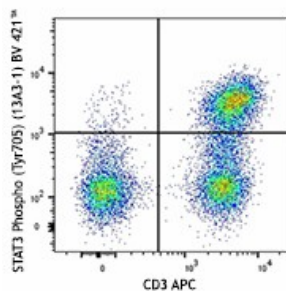
[Intracellular Staining With True-Phos™ Perm Buffer in Cell Suspensions Protocol](#)

[Intracellular Staining With True-Phos™ Perm Buffer in Whole Blood](#)

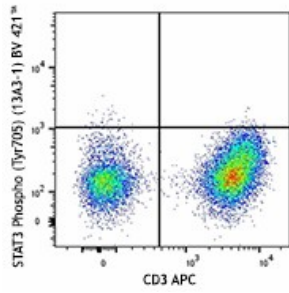
## Other Formats

Purified anti-STAT3 Phospho (Tyr705), PE anti-STAT3 Phospho (Tyr705), Alexa Fluor® 488 anti-STAT3 Phospho (Tyr705), Brilliant Violet 421™ anti-STAT3 Phospho (Tyr705), Alexa Fluor® 647 anti-STAT3 Phospho (Tyr705), Direct-Blot™ HRP anti-STAT3 Phospho (Tyr705), PE/Cyanine5 anti-STAT3 Phospho (Tyr705), FITC anti-STAT3 Phospho (Tyr705), PerCP/Cyanine5.5 anti-STAT3 Phospho (Tyr705)

## Product Data



Human whole blood was stimulated with (top) or without (bottom) IL-6 for 15 minutes, then treated with RBC Lysis/Fixation Solution, and permeabilized with True-Phos™ Perm Buffer, then stained with CD3 APC and STAT3 pY705 (clone 13A3-1) Brilliant Violet 421™.



For research use only. Not for diagnostic use. Not for resale. BioLegend will not be held responsible for patent infringement or other violations that may occur with the use of our products.

\*These products may be covered by one or more Limited Use Label Licenses (see the BioLegend Catalog or our website, [www.biolegend.com/ordering#license](http://www.biolegend.com/ordering#license)). BioLegend products may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products, reverse engineer functionally similar materials, or to provide a service to third parties without written approval of BioLegend. By use of these products you accept the terms and conditions of all applicable Limited Use Label Licenses. Unless otherwise indicated, these products are for research use only and are not intended for human or animal diagnostic, therapeutic or commercial use.

BioLegend Inc., 8999 BioLegend Way, San Diego, CA 92121 [www.biolegend.com](http://www.biolegend.com)  
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587