

## Go-ChIP-Grade™ Purified anti-STAT3 Antibody

<b>Catalog# / Size</b>	691503 / 25 µg 691504 / 100 µg
<b>Clone</b>	P83B5
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	Signal transducer and activator of transcription 3, Acute-phase response factor (APRF), HIES, ADMIO
<b>Isotype</b>	Mouse IgG1, κ
<b>Description</b>	STAT3 is an 88 kD member of the STAT (signal transducer and activators of transcription) protein family that is phosphorylated in response to a cytokine receptor-associated kinase activity. Phosphorylation of STAT3 induces nuclear translocation to activate transcription. STAT3 forms both homo- and heterotrimers and is involved in the activation of genes required for cell growth and apoptosis. STAT3 is also involved in gp130 signaling and binds to IL-6 response elements in various acute phase protein promoters. STAT3 is phosphorylated by signaling from IFNs, EGF, FGF, IL-5, HGF, LIF, and BMP2. STAT3 activity is inhibited by PIAS3 and GRIM-19 and can also be regulated by the Rac1 protein.

### Product Details

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<b>Verified Reactivity</b>	Human, Mouse
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Immunogen</b>	Purified recombinant fragment (aa 20-240) of human STAT3 expressed in <i>E. coli</i> .
<b>Formulation</b>	Phosphate-buffered solution, pH 7.2, containing 0.05% sodium azide.
<b>Preparation</b>	The Go-ChIP-Grade™ Purified antibody was purified by affinity chromatography.
<b>Concentration</b>	0.5 mg/ml
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C.
<b>Application</b>	<a href="#">ChIP - Quality tested</a> <a href="#">WB - Verified</a>
<b>Recommended Usage</b>	Each lot of this antibody is quality control tested by ChIP. For ChIP, the suggested use of this reagent is 1-50-1:150 dilution by volume. For Western blotting, the suggested use of this reagent is 0.5 - 1.0 µg per ml. It is recommended that the reagent be titrated for optimal performance for each application.
<b>Application Notes</b>	The canonical sequence of STAT3 contains 770 amino acids with a predicted molecular weight of 88 kD. A shorter isoform of STAT3 with 722 amino acids (83 kD) was reported. Clone P83B5 may recognize both isoforms.  25 µg, 100 µg of Go-ChIP-Grade Purified™ antibody can be used for 2-8, 11-33 immunoprecipitations, respectively, at the recommended dilution.
<b>Application References</b>	1. Akira S, <i>et al.</i> 1994. <i>Cell</i> . 77:63. 2. Zhang X, <i>et al.</i> 1995. <i>Science</i> 267:1990. 3. Sanchez-Margalet V & Martin-Romero C. 2001. <i>Cell Immunol.</i> 211:30. 4. Simon A, <i>et al.</i> 2000. <i>Science</i> 290:144. 5. Hoey T & Grusby MJ. 1999. <i>Adv. Immunol.</i> 71:145.
<b>(PubMed link indicates BioLegend citation)</b>	
<b>RRID</b>	AB_2716049 (BioLegend Cat. No. 691503) AB_2716050 (BioLegend Cat. No. 691504)

## 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>	Phosphorylated in response to cytokine signaling by receptor-associated kinases, translocates to the nucleus to act as a transcriptional activator, activates a wide variety of genes involved in cell growth and apoptosis, and is involved in gp130-related signaling.
<b>Interaction</b>	STAT3 forms a homodimer or a heterodimer with other STAT family members and interacts with IL31RA, NCOA1, PELP1, SIPAR, SOCS7, STATIP1, CAV2, DAPK3, EIF2AK2, PIAS3, and TMF1.
<b>Cell Type</b>	Embryonic Stem Cells, Mesenchymal Stem Cells
<b>Biology Area</b>	Cell Biology, Neuroscience, Neuroscience Cell Markers, Stem Cells, Transcription Factors
<b>Molecular Family</b>	Nuclear Markers
<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 &amp; Martin-Romero C. 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 &amp; Grusby MJ. 1999. <i>Adv. Immunol.</i> 71:145.</li></ol>
<b>Gene ID</b>	<a href="#">6774</a>

## Related Protocols

[BioLegend's Tools for Chromatin Immunoprecipitation \(ChIP\) Assays - Video](#)

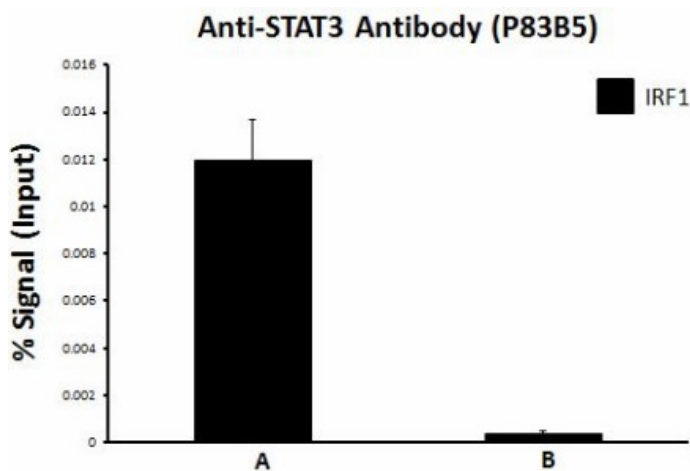
[Chromatin Immunoprecipitation \(ChIP\) Assay Protocol](#)

[Western Blotting Protocol](#)

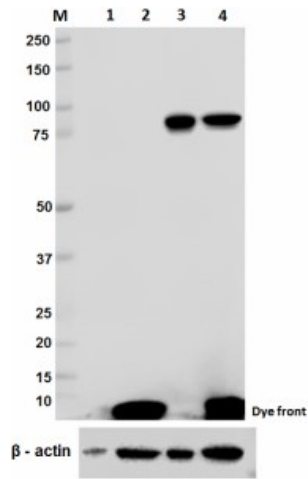
## Other Formats

Purified anti-STAT3, Go-ChIP-Grade™ Purified anti-STAT3

## Product Data



Chromatin Immunoprecipitation (ChIP) was performed using commercial Protein-G coated 96 well high-throughput ChIP assay kit by loading 3 µg of cross-linked chromatin samples from HeLa cells starved overnight and then treated with IL-6 with either A) 1:50 dilution of Go-ChIP-Grade™ purified anti-STAT3 (clone P83B5), or B) equal amount of purified Mouse IgG1, κ isotype control antibody. The enriched DNA was purified and quantified by real-time qPCR using primers targeting human IRF1 gene region. The amount of immunoprecipitated DNA in each sample is represented as signal relative to the 5% of total amount of input chromatin.



Total cell lysates (15  $\mu$ g protein) from Raw264.7 (lane 1), PC3 (lane 2) and HeLa (lane 3) and Molt-4 (lane 4) cells were resolved by electrophoresis (4-12% Bis-Tris gel), transferred to nitrocellulose, and probed with 1  $\mu$ g/mL (1:500 dilution) of Purified anti-STAT3 Antibody (clone P83B5) (upper panel). Proteins were visualized by chemiluminescence detection using a 1:3000 diluted goat anti-mouse-IgG secondary antibody conjugated to HRP for anti-STAT3 Antibody or 1:5000 diluted Direct-Blot™ HRP anti- $\beta$ -Actin antibody, clone 2F1-1 (lower panel) as a loading control. Lane M: Molecular weight ladder.

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