Purified anti-STAT6 Phospho (Tyr641) Antibody

Catalog# / Size	690101 / 25 µg 690102 / 100 µg
Clone	A15137A
Regulatory Status	RUO
Other Names	Signal transducer and activator of transcription 6, IL-4 Stat
Isotype	Mouse IgG1, κ
Description	STAT6 is a member of the signal transducer and activator of transcription (STAT) family, activating gene expression in response to IL-4 and IL-13 stimulation. Upon cytokine stimulation, the receptor is phosphorylated by the associated Janus Kinases (Jak), followed by recruiting cytoplasmic STAT6. The Tyr641 residue of STAT6 is, in turn, phosphorylated by Jak. Phosphorylated STAT6 forms homodimers, translocates to the nucleus, and regulates transcription of target genes. STAT6 plays crucial roles in differentiation of T helper 2 (Th2) cells, class switch of immunoglobulins in B cells, expression of cell surface markers such as MHC class II, and the development of allergic inflammation.

Product Details

Verified Reactivity	Human
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	Human STAT6 peptide phosphorylated at Tyr641.
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
Preparation	The antibody was purified by affinity chromatography.
Concentration	0.5 mg/ml
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C.
Application	WB - *Quality tested* ICC, ChIP - *Verified*
Recommended Usage	Each lot of this antibody is quality control tested by Western blotting. For Western blotting, the suggested use of this reagent is 0.01 - 0.05 µg per ml. For immunocytochemistry, a concentration range of 0.2 - 1.0 µg/ml is recommended. For ChIP applications, the suggested dilution is 1:50-1:100 by volume. It is recommended that the reagent be titrated for optimal performance for each application.
Application Notes	This antibody recognizes STAT6 Phospho (Tyr641) in all three isoforms at 74, 82, and 94 kD. The predominant band detected is at 94 kD.
RRID	AB_2715760 (BioLegend Cat. No. 690101) AB_2715760 (BioLegend Cat. No. 690102)

Antigen Details

Structure	847 amino acids, predicted molecular weight of 94 kD. Contains a SH2 domain responsible for phosphor-Tyrosine binding and dimerization.
Distribution	Translocates to the nucleus when phosphorylated.
Function	STAT6 is a transcription factor, mediating IL-4 and IL-13 signaling.
Interaction	STAT6 interacts with CBP/p300 and NCOA1. Forms a homodimer or a heterodimer with other

	STAT family members.
Cell Type	B cells
Biology Area	Cell Biology, Immunology, Signal Transduction
Molecular Family	Nuclear Markers, Phospho-Proteins
Antigen References	1. Goenka S, *et al*. 2011. *Immunol. Res*. 50:87 2. Wurster AL, *et al*. 2000. *Oncogene*. 19:2577 3. Akira S, 1999. *Stem Cells*. 17:138 4. Zamorano J, *et al*. 2005. *J. Immunol*. 174:2843 5. David M, *et al*. 2001. *Oncogene*. 20:6660 6. Takeda K, *et al*. 1996. *Nature*. 380:627
Gene ID	6778

Related Protocols

BioLegend's Tools for Chromatin Immunoprecipitation (ChIP) Assays - Video

Chromatin Immunoprecipitation (ChIP) Assay Protocol

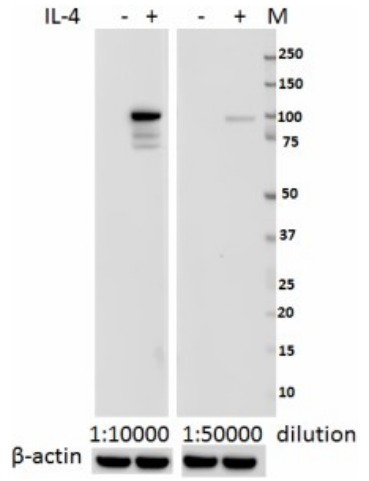
Immunocytochemistry Staining Protocol

Western Blotting Protocol

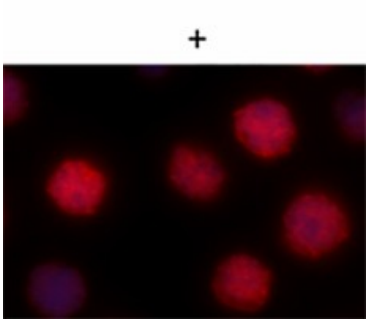
Other Formats

Purified anti-STAT6 Phospho (Tyr641)

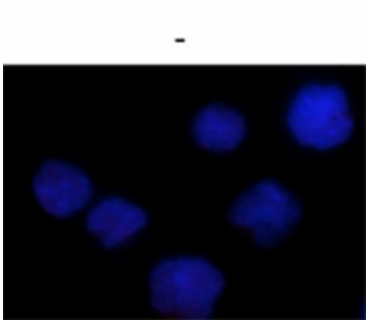
Product Data



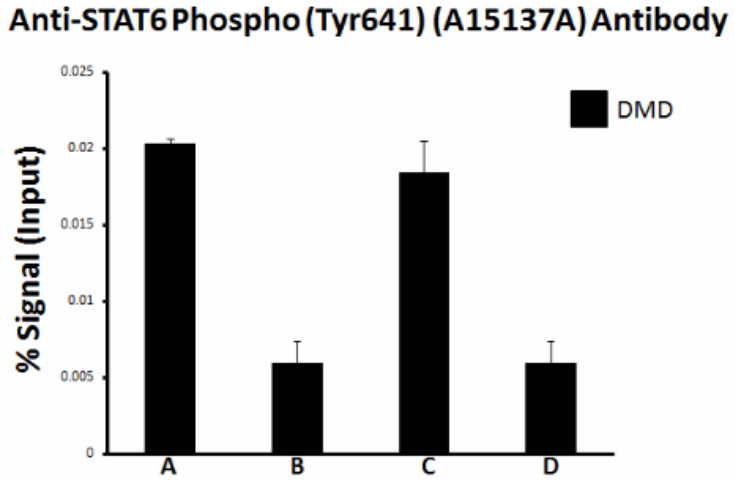
Total cell lysate (15 µg protein) from non-treated and 100 ng/mL recombinant human IL-4 treated Daudi cells (10 min treatment) were resolved by 4-12% Bis-Tris gel electrophoresis, transferred to nitrocellulose, and probed with 1:10000 (0.05 µg/mL) and 1:50000 (0.01 µg/mL) diluted purified anti-STAT6 phospho (Tyr641) antibody (clone A15137A) (upper). Proteins were visualized using 1:3000 diluted HRP goat anti-mouse-IgG secondary antibody (clone Poly4053) and chemiluminescence detection. Direct-Blot™ HRP anti-β-actin Antibody (1:2000 diluted, clone 2F1-1) was used as a loading control (lower). Lane M is the MW ladder.



Daudi cells treated with 100 ng/mL recombinant human IL-4 were fixed with 4% paraformaldehyde (PFA) for 15 minutes, permeabilized with 0.5% Triton X-100 for 3 minutes, and blocked with 5% FBS for 60 minutes. Then the cells were intracellularly stained with 1 µg/ml anti-STAT6 phospho (Tyr641) antibody (clone A15137A) overnight at 4 degree followed by Alexa Fluor® 594 (red) conjugated goat anti-mouse IgG (clone Poly 4053) for one hour at room temperature. Nuclei were counterstained with DAPI (blue). The image was captured with a 60X objective.



Daudi cells un-treated were fixed with 4% paraformaldehyde (PFA) for 15 minutes, permeabilized with 0.5% Triton X-100 for 3 minutes, and blocked with 5% FBS for 60 minutes. Then the cells were intracellularly stained with 1 µg/ml anti-STAT6 phospho (Tyr641) antibody (clone A15137A) overnight at 4 degree followed by Alexa Fluor® 594 (red) conjugated goat anti-mouse IgG (clone Poly 4053) for one hour at room temperature. Nuclei were counterstained with DAPI (blue). The image was captured with a 60X objective.



Chromatin Immunoprecipitation (ChIP) was performed using Go-ChIP-Grade™ Protein G Enzymatic Kit by loading 3 µg of cross-linked chromatin samples from Ramos cells starved overnight and then treated with IL-4 with either A) 1:50 dilution of Go-ChIP-Grade™ Purified anti-STAT6 Phospho (Tyr641) (clone A15137A), or B) equal amount of Purified mouse Ig1, κ isotype control antibody (Cat. No. 401401), or C) competitor's ChIP-grade purified anti-STAT6 Phospho (Tyr641) antibody and D) equal amount of matched isotype control antibody as recommended by the manufacturer. The enriched DNA was purified and quantified by real-time qPCR using primers targeting human DMD gene region. The amount of immunoprecipitated DNA in each sample is represented as signal relative to the 5% of total amount of input chromatin.

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