abcam

ab263947

Anti-STAT6 (phospho Y641) antibody [EPR22599-78]

Anti-STAT6 (phospho Y641) antibody [EPR22599-78] (ab263947) is a rabbit monoclonal antibody detecting STAT6 in **Western Blot, Flow Cytometry (Intra), IP, Dot Blot**. Suitable for **Human, Mouse, Rat**.

- Biophysical QC for unrivalled batch-batch consistency
- Over 20 publications

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR22599-78
Purification technique	Affinity purification Protein A
Specificity	STAT6 is activated via phosphorylation at Tyr641 and is required for responsiveness to IL-4 and IL-13.
Concentration	0.518 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Not recommended

Species	Mouse
Dilution info	-
Notes	-

Species	Rat
Dilution info	-
Notes	-

Species	Human
Dilution info	-
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Species	Synthetic peptide
Dilution info	-
Notes	-

IP

Tested

Species	Mouse
Dilution info	1/30
Notes	-

Species	Human
Dilution info	1/30
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

ChIP

Not recommended

Species	Human, Mouse, Rat, Synthetic peptide
Dilution info	-
Notes	-

Dot

Tested

Species	Synthetic peptide
Dilution info	1/1000
Notes	-

Expected

Species	Mouse, Human, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	p-STAT6 expression is typically undetectable or present at very low levels in healthy tissue lysates (e.g., kidney, lung, and skin) under physiological conditions (PMID: 34831280; PMID: 22401596; PMID: 24955743; PMID: 36629780). However, its expression is markedly upregulated in pathological states, including inflammatory responses and oncogenic activation (PMID: 36884218).

Species	Human
Dilution info	1/1000
Notes	p-STAT6 expression is typically undetectable or present at very low levels in healthy tissue lysates (e.g., kidney, lung, and skin) under physiological conditions (PMID: 34831280; PMID: 22401596; PMID: 24955743; PMID: 36629780). However, its expression is markedly upregulated in pathological states, including inflammatory responses and oncogenic activation (PMID: 36884218).

Species	Rat
Dilution info	1/1000
Notes	p-STAT6 expression is typically undetectable or present at very low levels in healthy tissue lysates (e.g., kidney, lung, and skin) under physiological conditions (PMID: 34831280; PMID: 22401596; PMID: 24955743; PMID: 36629780). However, its expression is markedly upregulated in pathological states, including inflammatory responses and oncogenic activation (PMID: 36884218).

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Mouse, Rat, Human, Synthetic peptide
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

Target data

See full target information Stat6 pY641

Function	Carries out a dual function: signal transduction and activation of transcription. Involved in IL4/interleukin-4- and IL3/interleukin-3-mediated signaling.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-STAT6 (phospho Y641) antibody [EPR22599-78] (ab263947) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Dot Blot in Human, Mouse, Rat samples.

What is the molecular weight of STAT6?
Anti-STAT6 (phospho Y641) [EPR22599-78] (ab263947) specifically detects a band for STAT6 (UniProt: P52633) at a molecular weight of 94kDa.

Trusted by the scientific community
Anti-STAT6 (phospho Y641) [EPR22599-78] (ab263947) was first used in a scientific publication in 2019 and has been cited over 20 times in peer-reviewed journals.

Other related products
We have a range of other formats of antibody clone [EPR22599-78] also available for your convenience: ab263947, Carrier free - ab263950, PE - ab305802, APC - ab305803, HRP - ab305804, Alkaline Phosphatase - ab308655, Alexa Fluor® 488 - ab309630, Alexa Fluor® 647 - ab309996, Alexa Fluor® 594 - ab310359, Alexa Fluor® 555 - ab311881, Alexa Fluor® 568 - ab312350, Alexa Fluor® 750 - ab321521

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	STAT6 also known as Signal Transducer and Activator of Transcription 6 is a transcription factor with a mass of around 94 kDa. This protein is an important component in the signaling pathways that respond to cytokines especially those of the IL-4 and IL-13 receptors. STAT6 mainly expresses in immune cells including T cells B cells and macrophages. It exists in the cytoplasm until the cytokine stimulation prompts its phosphorylation and translocation to the nucleus where it influences gene expression.
Biological function summary	STAT6 plays a central role in the development and function of Th2 cells a subset of T helper cells. The protein controls genes linked to the immune response and inflammation such as IL-4 and IL-13 by binding to specific DNA sequences as part of the transcriptional complex. These processes are critical for antibody class switching in B cells and also for regulating the differentiation of T cells which are processes important in defending against parasitic infections and are linked to allergies.

Pathways	STAT6 functions mainly in the JAK-STAT signaling pathway a pathway important for transmitting information from chemical signals outside cells to the cell nucleus resulting in DNA transcription. Within this pathway STAT6 works closely with JAK1 and JAK3 kinases which phosphorylate STAT6 enabling its activation. The protein also connects with other members of the STAT family like STAT1 and STAT3 during overlapping signaling processes.
Associated diseases and disorders	STAT6 has associations with asthma and certain types of cancer such as colorectal cancer. In asthma STAT6 influences the production of IgE and eosinophilic inflammation often connected to allergic responses. Meanwhile STAT6 promotes tumorigenesis in some cancers by regulating genes responsible for cell survival and proliferation. It connects with proteins like IL-4 and IL-13 in these disorders which suggests potential therapeutic targets for treatment.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

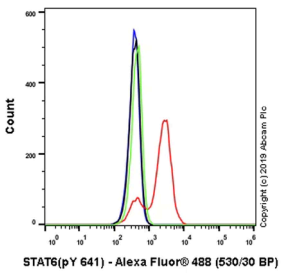
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

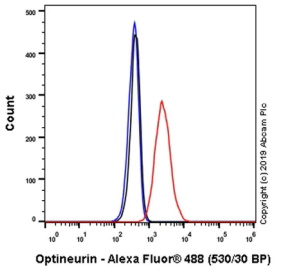
11 product images



Flow Cytometry (Intracellular) - Anti-STAT6 (phospho Y641) antibody [EPR22599-78] (ab263947)

STAT6 (phospho Y641) Flow Cytometry (Intracellular) staining using rabbit Anti-STAT6 (phospho Y641) antibody

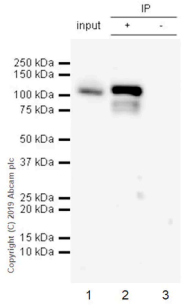
Intracellular flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Daudi (Human Burkitt's lymphoma lymphoblast) was serum starved for 24h, then treated with 100ng/ml IL-4 for 15min (Red)/Untreated control (Green) cells labelling STAT6 (phospho Y641) with ab263947 at 1/500 dilution (Red) compared with a Rabbit monoclonal IgG (ab172730)isotype control (black)and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody.
STAT6 is activated via phosphorylation at Tyr641 and is required for responsiveness to IL-4 and IL-13.



Flow Cytometry (Intracellular) - Anti-STAT6 (phospho Y641) antibody [EPR22599-78] (ab263947)

STAT6 (phospho Y641) Flow Cytometry (Intracellular) staining using rabbit Anti-STAT6 (phospho Y641) antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Daudi (Human Burkitt's lymphoma lymphoblast) was serum starved for 24h, then treated with 100ng/ml IL-4 for 15min (Red)/Untreated control (Green) cells labelling STAT6 (phospho Y641) with ab263947 at 1/500 dilution (Red) compared with a Rabbit monoclonal IgG (ab172730)isotype control (black)and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody. STAT6 is activated via phosphorylation at Tyr641 and is required for responsiveness to IL-4 and IL-13.



Immunoprecipitation - Anti-STAT6 (phospho Y641) antibody [EPR22599-78] (ab263947)

STAT6 (phospho Y641) was immunoprecipitated from 0.35 mg Daudi (Human Burkitt's lymphoma lymphoblast) was serum starved for 24h, then treated with 100ng/ml IL-4 for 15min whole cell lysate 10ug with ab263947 at 1:30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab263947 at 1:1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366) was used at 1:5000 dilution.
Lane 1: Daudi (Human Burkitt's lymphoma lymphoblast) was serum starved for 24h, then treated with 100ng/ml IL-4 for 15min whole cell lysate 10ug

Lane 2: ab263947 IP in Daudi was serum starved for 24h, then treated with 100ng/ml IL-4 for 15min whole cell lysate

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab263947 in Daudi was serum starved for 24h, then treated with 100ng/ml IL-4 for 15min whole cell lysate

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

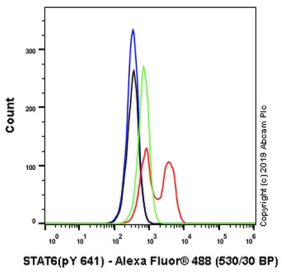
STAT6 is activated via phosphorylation at Tyr641 and is required for responsiveness to IL-4 and IL-13.

Exposure time: 1 min

All lanes:

Immunoprecipitation - Anti-STAT6 (phospho Y641) antibody [EPR22599-78] (ab263947)

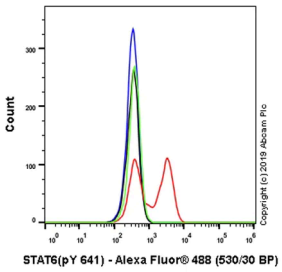
Predicted band size: 94 kDa



Flow Cytometry (Intracellular) - Anti-STAT6 (phospho Y641) antibody [EPR22599-78] (ab263947)

STAT6 (phospho Y641) Flow Cytometry (Intracellular) staining using rabbit Anti-STAT6 (phospho Y641) antibody

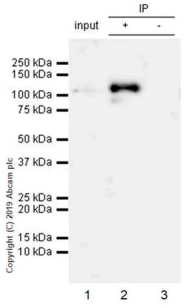
Intracellular flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized RAW 264.7 (Mouse Abelson murine leukemia virus-induced tumor macrophage) was serum starved for 24h, then treated with 100ng/ml IL-4 for 15min (Red) / Untreated control (Green) cells labelling STAT6 (phospho Y641) with ab263947 at 1/500 dilution (Red) compared with a Rabbit monoclonal IgG (ab172730) isotype control (Black)and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody.
STAT6 is activated via phosphorylation at Tyr641 and is required for responsiveness to IL-4 and IL-13.



Flow Cytometry (Intracellular) - Anti-STAT6 (phospho Y641) antibody [EPR22599-78] (ab263947)

STAT6 (phospho Y641) Flow Cytometry (Intracellular) staining using rabbit Anti-STAT6 (phospho Y641) antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized RAW 264.7 (Mouse Abelson murine leukemia virus-induced tumor macrophage) was serum starved for 24h, then treated with 100ng/ml IL-4 for 15min (Red) / Untreated control (Green) cells labelling STAT6 (phospho Y641) with ab263947 at 1/500 dilution (Red) compared with a Rabbit monoclonal IgG (ab172730) isotype control (Black)and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody. STAT6 is activated via phosphorylation at Tyr641 and is required for responsiveness to IL-4 and IL-13.



Immunoprecipitation - Anti-STAT6 (phospho Y641) antibody [EPR22599-78] (ab263947)

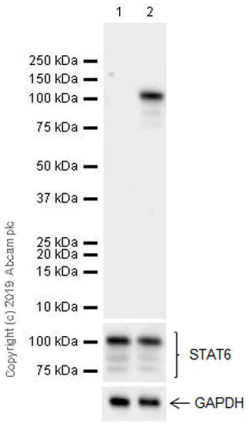
STAT6 (phospho Y641) was immunoprecipitated from 0.35 mg RAW 264.7 (Mouse Abelson murine leukemia virus-induced tumor macrophage) was serum starved for 24h, then treated with 100ng/ml IL-4 for 15min whole cell lysate 10ug with ab263947 at 1:30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab263947 at 1:1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366) was used at 1:5000 dilution. Lane 1: RAW 264.7 (Mouse Abelson murine leukemia virus-induced tumor macrophage) was serum starved for 24h, then treated with 100ng/ml IL-4 for 15min whole cell lysate 10ug
Lane 2: ab263947 IP in RAW 264.7 was serum starved for 24h, then treated with 100ng/ml IL-4 for 15min whole cell lysate

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab263947 in RAW 264.7 was serum starved for 24h, then treated with 100ng/ml IL-4 for 15min whole cell lysate

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 2 min
All lanes:
Immunoprecipitation - Anti-STAT6 (phospho Y641) antibody [EPR22599-78] (ab263947)

Predicted band size: 94 kDa



Western blot - Anti-STAT6 (phospho Y641) antibody [EPR22599-78] (ab263947)

STAT6 (phospho Y641) Western blot staining using rabbit Anti-STAT6 (phospho Y641) antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST

Phosphorylation of STAT6 at Y641 can be induced by IL-4 treatment (PMID: 21411736,15044251)
This antibody recognizes three isoforms of STAT6, isoform 1 (110 kDa), isoform 2 (75 kDa), isoform 3 (81 kDa), which is consistent with the Uniprot annotation.
STAT6 is activated via phosphorylation at Tyr641 and is required for responsiveness to IL-4 and IL-13.

Exposure time: 15 seconds
All lanes:
Western blot - Anti-STAT6 (phospho Y641) antibody [EPR22599-78] (ab263947) at 1/5000 dilution

Lane 1:
Daudi (human Burkitts lymphoma lymphoblast) serum starved for 24 hours, whole cell lysate at 10 µg

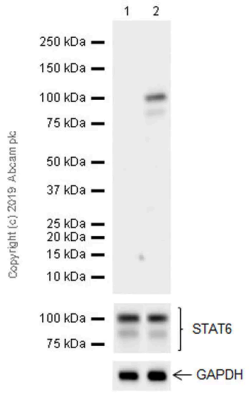
Lane 2:
Daudi serum starved for 24 hours, then treated with 100 ng/ml IL-4 for 15 minutes, whole cell lysate 10 ug

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 94 kDa

Observed band size: 110 kDa, 75 kDa, 81 kDa



Western blot - Anti-STAT6 (phospho Y641) antibody [EPR22599-78] (ab263947)

STAT6 (phospho Y641) Western blot staining using rabbit Anti-STAT6 (phospho Y641) antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST

Phosphorylation of STAT6 at Y641 can be induced by IL-4 treatment (PMID: 21411736,15044251)
The molecular weight observed is consistent with what has been described in the literature (PMID: 24708771).
STAT6 is activated via phosphorylation at Tyr641 and is required for responsiveness to IL-4 and IL-13.

Exposure time: 37 seconds

All lanes:

Western blot - Anti-STAT6 (phospho Y641) antibody [EPR22599-78] (ab263947) at 1/5000 dilution

Lane 1:
2.4G2 (rat B cell lymphoma B lymphocyte) serum starved for 24 hours, whole cell lysate at 10 µg

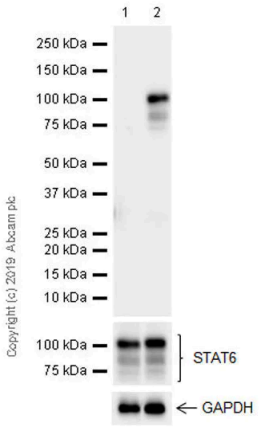
Lane 2:
2.4G2 serum starved for 24 hours, then treated with 100 ng/ml rIL-4 for 15 minutes, whole cell lysate 10 ug

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 94 kDa

Observed band size: 110 kDa, 94 kDa



Western blot - Anti-STAT6 (phospho Y641) antibody [EPR22599-78] (ab263947)

STAT6 (phospho Y641) Western blot staining using rabbit Anti-STAT6 (phospho Y641) antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST
Phosphorylation of STAT6 at Y641 can be induced by IL-4 treatment (PMID: 21411736,15044251)
The molecular weight observed is consistent with what has been described in the literature (PMID: 24708771).

STAT6 is activated via phosphorylation at Tyr641 and is required for responsiveness to IL-4 and IL-13.

Exposure time: 15 seconds

All lanes:
Western blot - Anti-STAT6 (phospho Y641) antibody [EPR22599-78] (ab263947) at 1/1000 dilution

Lane 1:
RAW264.7 (mouse Abelson murine leukemia virus-induced tumor macrophage) serum starved for 24 hours, whole cell lysate at 10 µg

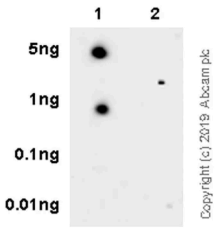
Lane 2:
RAW264.7 serum starved for 24 hours, then treated with 100 ng/ml mIL-4 for 15 minutes, whole cell lysate 10 ug

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 94 kDa

Observed band size: 110 kDa, 94 kDa



Dot Blot - Anti-STAT6 (phospho Y641) antibody [EPR22599-78] (ab263947)

Dot blot analysis of STAT6 (phospho Y641) peptide (Lane 1 STAT6 non-phospho peptide peptide (Lane 2), labelling STAT 6 (pY641) with purified ab263947 at a dilution of 1/1000. ab97051 (Peroxidase conjugated goat anti-rabbit IgG (H+L)) was used as the secondary antibody at a dilution of 1/100000.
Blocking and dilution buffer: 5% NFDM/TBST.

Exposure time: 26 seconds.

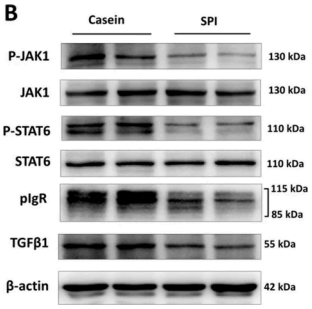


Image collected and cropped by CiteAb under a CC-BY license from the publication

Western blot - Anti-STAT6 (phospho Y641) antibody [EPR22599-78] (ab263947)

STAT6 (phospho Y641) Western blot staining using rabbit Anti-STAT6 (phospho Y641) antibody

STAT6 (phospho Y641) western blot using anti-STAT6 (phospho Y641) antibody [EPR22599-78] ab263947. Publication image and figure legend from Zeng, B., Wang, D., et al., 2020, Nutrients, PubMed 32911830.

ab263947 was used in this publication in western blot. This may not be the same as the application(s) guaranteed by Abcam. For a full list of applications guaranteed by Abcam for ab263947 please see the product overview.

Effect of SPI on JAK1-STAT6 signaling and TGFβ levels in mouse ileum tissue. (A) qRT-PCR analysis of Jak1, Stat6, Tgfb1, and Tgfb2 mRNA expression levels in mouse ileum tissue (normalized against Actb (β-actin); n = 8). (B) Western blot analysis of JAK1, p-JAK1, STAT6, p-STAT6, pIgR, and TGFβ1 protein levels in mouse ileum tissue (n = 6). (C) The statistical analyses of the Western blot results. Results are normalized to β-actin (n = 6). All data are presented as means ± SEM. NS, not significant ($p > 0.05$); * $p < 0.05$; ** $p < 0.01$. Statistical significance was calculated using t-tests.

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