abcam

ab68153

Anti-STAT3 antibody [EPR787Y]

Anti-STAT3 antibody [EPR787Y] (ab68153) is a rabbit monoclonal antibody detecting STAT3 in **Western Blot, Flow Cytometry (Intra), IHC-P, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- KO validated in HAP1 and HeLa cells for confirmed specificity

Lab Essentials | Recombinant | RabMAb | Advanced Validation | KO Validated | 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	EPR787Y
Purification technique	Affinity purification Protein A
Concentration	0.502 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ChIC/CUT&RUN-seq

Tested

Species	Human
Dilution info	-

Notes	-

Expected

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

IP

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000 - 1/2000
Notes	-

Species	Rat
Dilution info	1/1000 - 1/2000
Notes	-

Species	Human
Dilution info	1/1000 - 1/2000
Notes	-

ICC/IF

Tested

Species	Human

Dilution info	1/200
Notes	**For unpurified use at 1/140.**

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/30 - 1/50
Notes	-

Expected

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

IHC-P

Tested

Species	Human
Dilution info	1/200
Notes	**For unpurified use at 1/140.**

Expected

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

Target data

See full target information STAT3

Function	Signal transducer and transcription activator that mediates cellular responses to interleukins, KITLG/SCF, LEP and other growth factors (PubMed:10688651, PubMed:12359225, PubMed:12873986, PubMed:15194700, PubMed:15653507, PubMed:16285960, PubMed:17344214, PubMed:18242580, PubMed:18782771, PubMed:22306293, PubMed:23084476, PubMed:28262505, PubMed:32929201, PubMed:38404237). Once activated, recruits coactivators, such as NCOA1 or MED1, to the promoter region of the target gene (PubMed:15653507, PubMed:16285960, PubMed:17344214, PubMed:18782771, PubMed:28262505, PubMed:32929201). May mediate cellular responses to activated FGFR1, FGFR2, FGFR3 and FGFR4 (PubMed:12873986). Upon activation of IL6ST/gp130 signaling by interleukin-6 (IL6), binds to the IL6-responsive elements identified in the promoters of various acute-phase protein genes (PubMed:12359225). Activated by IL31 through IL31RA (PubMed:15194700). Acts as a regulator of inflammatory response by regulating differentiation of naive CD4(+) T-cells into T-helper Th17 or regulatory T-cells (Treg): acetylation promotes its transcription activity and cell differentiation while deacetylation and oxidation of lysine residues by LOXL3 inhibits differentiation (PubMed:28065600, PubMed:28262505). Involved in cell cycle regulation by inducing the expression of key genes for the progression from G1 to S phase, such as CCND1 (PubMed:17344214). Mediates the effects of LEP on melanocortin production, body energy homeostasis and lactation (By similarity). May play an apoptotic role by transctivating BIRC5 expression under LEP activation (PubMed:18242580). Cytoplasmic STAT3 represses macroautophagy by inhibiting EIF2AK2/PKR activity (PubMed:23084476). Plays a crucial role in basal beta cell functions, such as regulation of insulin secretion (By similarity). Following JAK/STAT signaling activation and as part of a complex with NFATC3 and NFATC4, binds to the alpha-beta E4 promoter region of CRYAB and activates transcription in cardiomyocytes (By similarity).

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

Product Specifications
Anti-STAT3 antibody [EPR787Y] (ab68153) was developed by Abcam using patented rabbit monoclonal antibody technology and is validated for use in ChIC/CUT&RUN-seq, Flow Cyt (Intra), ICC/IF, IHC-P, WB in human, mouse, rat samples.
Anti-STAT3 antibody [EPR787Y] (ab68153) specifically detects STAT3 (UniProt ID: P40763; Molecular weight: 88kDa) and is sold in a convenient trial size to enable initial testing (20 µL) and larger sizes for subsequent scaling up experiments (100 µL and 1 mL).

Quality and Validation
Abcam's high quality manufacturing and validation processes ensure Anti-STAT3 antibody [EPR787Y] (ab68153) has high sensitivity and specificity alongside high lot-to-lot consistency and reproducibility.
The specificity of Anti-STAT3 antibody [EPR787Y] (ab68153) has been confirmed by testing in knockout samples.
Anti-STAT3 antibody [EPR787Y] (ab68153) has been cited over 352 times in peer reviewed journals and is trusted by the scientific community.
Anti-STAT3 antibody [EPR787Y] (ab68153) has 10 independent reviews from customers.

Related Products
Conjugation-ready, carrier free format available for antibody clone EPR787Y - ab232558.
Antibody clone EPR787Y is also available pre-conjugated to a variety of labels for your convenience - HRP, Alexa Fluor® 647 (ab194307, ab300101).
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.

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

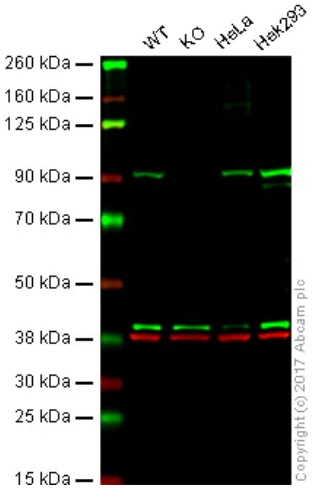
We do not recommend this combination. It is not covered by our product promise.

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.

10 product images



Western blot - Anti-STAT3 antibody [EPR787Y] (ab68153)

STAT3 Western blot staining using rabbit Anti-STAT3 antibody

Lanes 1 - 4: Merged signal (red and green). Green - ab68153 observed at 92 kDa. Red - loading control, ab8245, observed at 37 kDa.
ab68153 detected the expected band for STAT3 in wild-type cells along with additional cross-reactive bands. The band was not seen in STAT3 knockout HAP1 cells. Wild-type and STAT3 knockout samples were subjected to SDS-PAGE. ab68153 and ab8245 (Mouse anti GAPDH loading control) were incubated overnight at 4°C at 1/500 dilution and 1/10000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed ab216773 and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed ab216776 secondary antibodies at 1/10000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-STAT3 antibody [EPR787Y] (ab68153) at 1/500 dilution

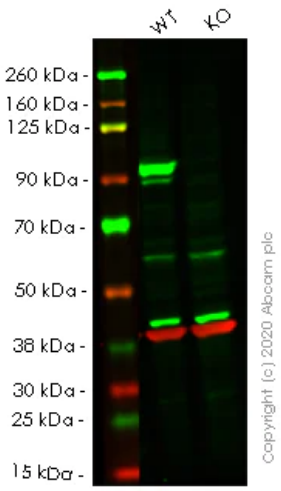
Lane 1:
Wild-type HAP1 whole cell lysate at 20 µg

Lane 2:
STAT3 knockout HAP1 whole cell lysate at 20 µg

Lane 3:
HeLa whole cell lysate at 20 µg

Lane 4:
HEK293 whole cell lysate at 20 µg

Predicted band size: 88 kDa



Western blot - Anti-STAT3 antibody [EPR787Y] (ab68153)

Lanes 1- 2: Merged signal (red and green). Green - ab68153 observed at 92 kDa. Red - Anti-GAPDH antibody [6C5] - Loading Control (ab8245) observed at 37 kDa.
ab68153 was shown to react with STAT3 in wild-type HeLa cells in western blot. Loss of signal was observed when knockout cell line ab255436 (knockout cell lysate ab263797) was used. Wild-type HeLa and STAT3 knockout HeLa cell lysates were subjected to SDS-PAGE. Membrane was blocked for 1 hour at room temperature in 0.1% TBST with 3% non-fat dried milk. ab68153 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) overnight at 4°C at a 1 in 1000 dilution and a 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye®800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye®680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-STAT3 antibody [EPR787Y] (ab68153) at 1/1000 dilution

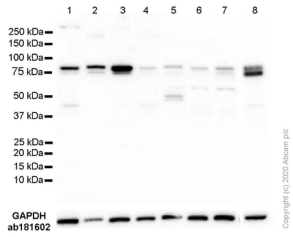
Lane 1:
Wild-type HeLa cell lysate at 20 µg

Lane 2:
STAT3 knockout HeLa cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 88 kDa

Observed band size: 92 kDa



Western blot - Anti-STAT3 antibody [EPR787Y] (ab68153)

STAT3 Western blot staining using rabbit Anti-STAT3 antibody

Blocking/Diluting buffer: 5% NFDM/TBST.
Rabbit monoclonal [EPR16891] to GAPDH (ab181602) used as loading control.

All lanes:
Western blot - Anti-STAT3 antibody [EPR787Y] (ab68153) at 1/1000 dilution

Lane 1:
HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
HaCaT (Human skin keratinocyte) whole cell lysate at 20 µg

Lane 3:
NIH/3T3 (Mouse embryonic fibroblast) whole cell lysate at 20 µg

Lane 4:
C2C12 (Mouse myoblast cell line) whole cell lysate at 20 µg

Lane 5:
Human brain lysate at 20 µg

Lane 6:
Mouse brain lysate at 20 µg

Lane 7:
Rat brain lysate at 20 µg

Lane 8:

Rat kidney lysate at 20 µg

Secondary

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

Predicted band size: 88 kDa

Observed band size: 92 kDa

Exposure time: 90s



Western blot - Anti-STAT3 antibody [EPR787Y] (ab68153)

STAT3 Western blot staining using rabbit Anti-STAT3 antibody

This blot was produced using a 4-12% Bis-tris gel under the MOPS buffer system. The gel was run at 200V for 50 minutes before being transferred onto a Nitrocellulose membrane at 30V for 70 minutes. The membrane was then blocked for an hour using 3% milk before being incubated with ab68153 overnight at 4°C. Antibody binding was detected using ab205722, and visualised using ECL development solution ab133406.
All lanes:
Western blot - Anti-STAT3 antibody [EPR787Y] (ab68153) at 1/2000 dilution

Lane 1:
A431 (Human epithelial carcinoma cell line) Whole Cell Lysate at 10 µg

Lane 2:
Heart (Mouse) Tissue Lysate at 10 µg

Lane 3:
Heart (Rat) Tissue Lysate at 10 µg

Secondary

All lanes:
Western blot - Donkey Anti-Rabbit IgG H&L (HRP) (ab205722) at 1/2000 dilution

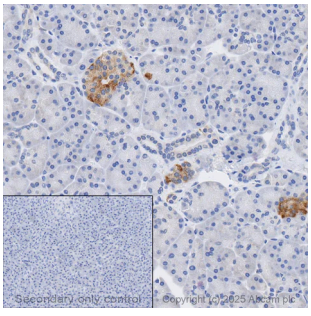
Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 36 kDa

Observed band size: 88 kDa

Exposure time: 20min



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-STAT3 antibody [EPR787Y] (ab68153)

STAT3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human pancreas using rabbit Anti-STAT3 antibody

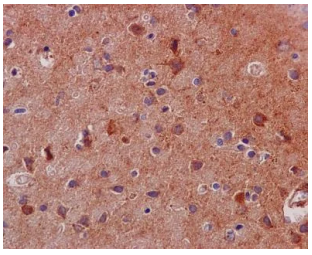
Immunohistochemical analysis of formalin fixed paraffin embedded human pancreas labelling STAT3 with ab68153 at a concentration of 0.1µg/ml.

The immunostaining was performed on a Ventana DISCOVERY ULTRA (Roche Tissue Diagnostics) instrument with an OptiView HRP/DAB detection kit.

Heat mediated antigen retrieval was performed with DISCOVERY cell conditioning solution (CC1) 100°C, pH8.5 for 32mins.

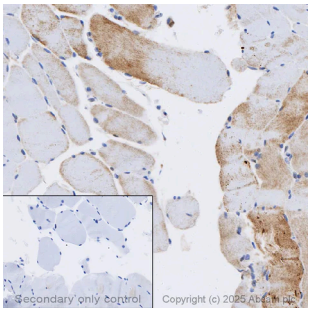
ab68153 anti-STAT3 antibody [EPR787Y] was incubated for 16mins at 37°C. Sections were counterstained with Hematoxylin II. Image inset shows absence of staining in secondary antibody only control.

Customers are encouraged to optimise antigen retrieval conditions, antibody concentration, incubation times and temperature for best results in their own IHC assay workflow (automated and manual).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-STAT3 antibody [EPR787Y] (ab68153)

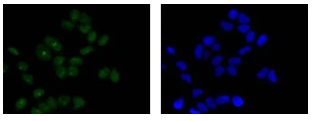
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human brain tissue sections labelling STAT3 with purified ab68153 at 1/200. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. A prediluted HRP-polymer conjugated anti-rabbit IgG was used as the secondary antibody. Counterstained with Hematoxylin.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-STAT3 antibody [EPR787Y] (ab68153)

Immunohistochemical analysis of formalin fixed paraffin embedded human skeletal muscle labelling STAT3 with ab68153 at a concentration of 0.1µg/ml.

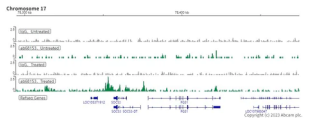
The immunostaining was performed on a Ventana DISCOVERY ULTRA (Roche Tissue Diagnostics) instrument with an OptiView HRP/DAB detection kit.
Heat mediated antigen retrieval was performed with DISCOVERY cell conditioning solution (CC1) 100°C, pH8.5 for 32mins.
ab68153 anti-STAT3 antibody [EPR787Y] was incubated for 16mins at 37°C. Sections were counterstained with Hematoxylin II.
Image inset shows absence of staining in secondary antibody only control.
Customers are encouraged to optimise antigen retrieval conditions, antibody concentration, incubation times and temperature for best results in their own IHC assay workflow (automated and manual).



Immunocytochemistry/ Immunofluorescence - Anti-STAT3 antibody [EPR787Y] (ab68153)

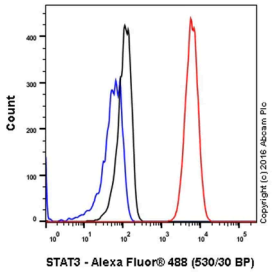
STAT3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-STAT3 antibody

Immunocytochemistry/Immunofluorescence analysis of HeLa cells labelling STAT3 (green) with purified ab68153 at 1/200. Cells were fixed with 4% paraformaldehyde. An Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/200) was used as the secondary antibody. DAPI (blue) was used as the nuclear counterstain.



ChIC/CUT&RUN sequencing - Anti-STAT3 antibody [EPR787Y] (ab68153)

ChIC/CUT&RUN was performed using a pAG-MNAse at a final concentration of 700 ng/mL, 2.5 x 10^5 HepG2 cells (starved overnight and treated with 100ng/ml IL-6 for 30min) and 5 µg of ab68153 [EPR787Y]. The resulting DNA was sequenced on the Illumina NovaSeq 6000 to a depth of 10 million reads. The negative IgG control ab172730 is also shown. Additional screenshots of mapped reads can be found in the Protocol booklet in the Product Protocol section. The University of Geneva owns patents relevant to ChIC (Chromatin Immuno-Cleavage) methods.



Flow Cytometry (Intracellular) - Anti-STAT3 antibody [EPR787Y] (ab68153)

STAT3 Flow Cytometry (Intracellular) staining using rabbit Anti-STAT3 antibody

ab68153 stainingSTAT3in the human cell line HeLa (human cervix adenocarcinoma) by intracellular flow cytometry. Cells were fixed with 4% paraformaldehyde, permeabilized with 90% methanol and the sample was incubated with the primary antibody at a dilution of 1/30. A goat anti rabbit IgG (Alexa Fluor® 488) at a dilution of 1/2000 was used as the secondary antibody. Isoytype control: Rabbit monoclonal IgG (Black)

Unlabelled control: Cell without incubation with primary antibody and secondary antibody (Blue)

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.