abcam

ab119352

Anti-STAT3 antibody [9D8]

Anti-STAT3 antibody [9D8] (ab119352) is a mouse monoclonal antibody detecting STAT3 in **Western Blot, Flow Cytometry, IP, IHC-P, ICC/IF**. Suitable for **African green monkey, Human, Mouse, Rat**.

- Over 200 publications

Lab Essentials

Key facts

Isotype	IgG
Host species	Mouse
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS, 0.1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human STAT3 aa 650 to C-terminus. The exact immunogen used to generate this antibody is proprietary information. Database link P40763
Clone number	9D8
Purification technique	Affinity purification Protein A
Specificity	Detects STAT3 from Human, murine, monkey and rat samples.
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/1600
Notes	-

Expected

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

Not recommended

Species	Transfected cell line
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Expected

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

Not recommended

Species	Transfected cell line
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	2 µg/mg of lysate
Notes	-

Expected

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

Not recommended

Species	Transfected cell line
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	0.1 µg for 10^6 Cells
Notes	-

Expected

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

Not recommended

Species	Transfected cell line

Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/5000
Notes	-

Species	Transfected cell line
Dilution info	1/5000
Notes	-

Species	Mouse
Dilution info	1/5000
Notes	-

Species	Rat
Dilution info	1/5000
Notes	-

Species	African green monkey
Dilution info	1/5000
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	Blue Ice
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-STAT3 antibody [9D8] (ab119352) is a mouse monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Flow Cyt), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in African green monkey, Human, Mouse, Rat samples.

What is the molecular weight of STAT3?
Anti-STAT3 [9D8] (ab119352) specifically detects a band for STAT3 (UniProt: P40763) at a molecular weight of 88kDa.

Trusted by the scientific community
Anti-STAT3 [9D8] (ab119352) was first used in a scientific publication in 2011 and has been cited over 200 times in peer-reviewed journals.

Reviewed by scientists
Anti-STAT3 [9D8] (ab119352) has over 10 independent reviews from customers.

Supplementary info

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

Activity summary	Signal Transducer and Activator of Transcription 3 (STAT3) also called p-stat3 or phospho-STAT3 is a critical transcription factor involved in various cellular processes. The molecular weight of STAT3 is approximately 92 kDa. This protein is expressed broadly across many tissues and cell types. Mechanically upon cytokine or growth factor stimulation STAT3 undergoes phosphorylation resulting in dimerization. This phosphorylated form often referred to as phospho-Stat3 or p-STAT3 translocates to the nucleus where it binds specific DNA sequences to modulate gene transcription.
Biological function summary	STAT3 is an important player in regulating cell growth and apoptosis. It functions not only as a transcription factor but also as part of a larger protein complex that operates within the cell nucleus to influence gene expression. This multifaceted role enables STAT3 to control the expression of genes related to cell proliferation survival and differentiation impacting various biological processes. These functions highlight its importance in tissue homeostasis and response to extracellular signals.
Pathways	STAT3 is actively involved in the JAK-STAT signaling pathway a principal route for many cytokines and growth factors and the MAPK pathway. STAT3 interacts with proteins such as JAK kinases which phosphorylate Stat3 and initiate the STAT3 signaling cascade. Additionally it closely associates with the protein Raf1 in the MAPK pathway linking external signals to transcriptional responses. These pathways play a significant role in immune response inflammation and growth signaling.
Associated diseases and disorders	Researchers have implicated STAT3 in cancer and autoimmune diseases. Persistent activation of STAT3 is often observed in various cancers including breast and lung cancer promoting oncogenesis through altered gene expression. Additionally abnormal STAT3 signaling is associated with autoimmune conditions such as rheumatoid arthritis. The interplay between STAT3 and proteins like IL-6 in these diseases highlights its potential as a therapeutic target for intervention.

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.

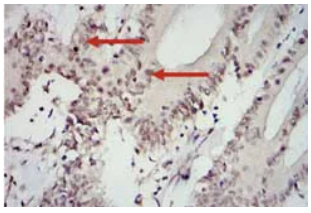
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

---

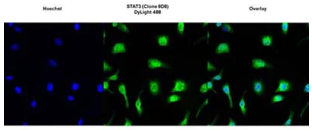
9 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-STAT3 antibody [9D8] (ab119352)

STAT3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-STAT3 antibody

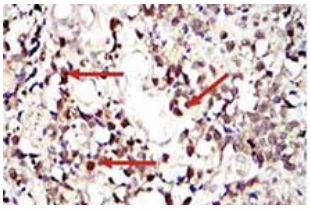
ab119352, at 1/1600 dilution, staining STAT3 in Human colon cancer tissue by Immunohistochemistry. Detection was performed using a goat anti-mouse HRP secondary antibody followed by colorimetric detection using DAB substrate. Tissues were counterstained with hematoxylin.



Immunocytochemistry/ Immunofluorescence - Anti-STAT3 antibody [9D8] (ab119352)

STAT3 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-STAT3 antibody

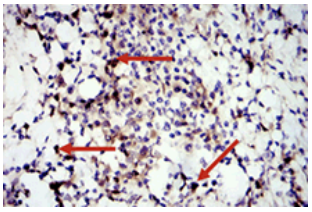
Immunofluorescent analysis of STAT3 using ab119352 at 1/100 dilution (shown in green) in HeLa cells (formalin fixed cells permeabilized with 0.1% Triton X-100) using a DyLight® 488 goat-anti-mouse secondary antibody (ab96879) at 1/400 dilution. Nuclei (blue) were stained with Hoechst 33342 dye.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-STAT3 antibody [9D8] (ab119352)

STAT3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-STAT3 antibody

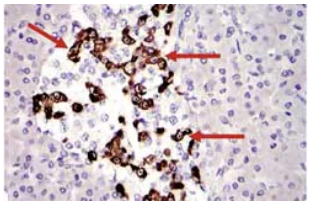
ab119352, at 1/1600 dilution, staining STAT3 in Human brain tumor tissue by Immunohistochemistry. Detection was performed using a goat anti-mouse HRP secondary antibody followed by colorimetric detection using DAB substrate. Tissues were counterstained with hematoxylin.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-STAT3 antibody [9D8] (ab119352)

STAT3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-STAT3 antibody

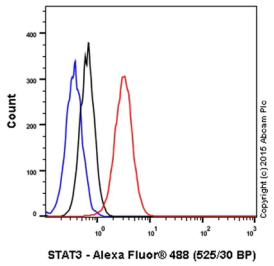
ab119352, at 1/1600 dilution, staining STAT3 in Human stomach cancer tissue by Immunohistochemistry. Detection was performed using a goat anti-mouse HRP secondary antibody followed by colorimetric detection using DAB substrate. Tissues were counterstained with hematoxylin.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-STAT3 antibody [9D8] (ab119352)

STAT3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-STAT3 antibody

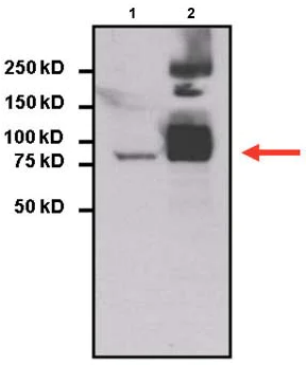
ab119352, at 1/1600 dilution, staining STAT3 in Human pancreas tissue by Immunohistochemistry. Detection was performed using a goat anti-mouse HRP secondary antibody followed by colorimetric detection using DAB substrate. Tissues were counterstained with hematoxylin.



Flow Cytometry - Anti-STAT3 antibody [9D8] (ab119352)

STAT3 Flow Cytometry staining using mouse Anti-STAT3 antibody

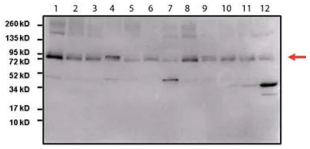
Overlay histogram showing HeLa cells stained with ab119352 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween 20 for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab119352, 0.1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was Alexa Fluor® 488 goat anti-mouse IgG (H&L) (ab150113) at 1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG (ab37355, 0.1µg/1x106 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control.
Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter.



Immunoprecipitation - Anti-STAT3 antibody [9D8] (ab119352)

Immunoprecipitation of STAT3 was performed on HepG2 cells. The antigen:antibody complex was formed by incubating 750µg whole cell lysate with 2µg of ab119352 overnight at 4°C. The immune-complex was captured, washed extensively and proteins eluted with 5X Reducing Sample Loading Dye. Samples were resolved on a 4-20% Tris-HCl polyacrylamide gel. Proteins were transferred to PVDF membrane and blocked with 5% Milk/TBS-0.1% Tween for at least 1 hour. Membranes were then probed with ab119352 at a dilution of 1/5000 overnight at 4°C. Membranes were washed in TBST and probed with IP detection reagent at a dilution of 1/2000 for at least one hour. Membranes were washed and chemiluminescent detection was performed.
All lanes:
Immunoprecipitation - Anti-STAT3 antibody [9D8] (ab119352)

Predicted band size: 88 kDa



Western blot - Anti-STAT3 antibody [9D8] (ab119352)

4-20% Tris-HCl polyacrylamide gel
All lanes:
Western blot - Anti-STAT3 antibody [9D8] (ab119352) at 1/5000 dilution

Lane 1:
HepG2 cell lysate at 25 µg

Lane 2:
293T cell lysate at 25 µg

Lane 3:
Jurkat cell lysate at 25 µg

Lane 4:
A431 cell lysate at 25 µg

Lane 5:
U2OS cell lysate at 25 µg

Lane 6:
MCF7 cell lysate at 25 µg

Lane 7:
A549 cell lysate at 25 µg

Lane 8:
K562 cell lysate at 25 µg

Lane 9:
COS7 cell lysate at 25 µg

Lane 10:
NIH3T3 cell lysate at 25 µg

Lane 11:
C2C12 cell lysate at 25 µg

Lane 12:
NRK cell lysate at 25 µg

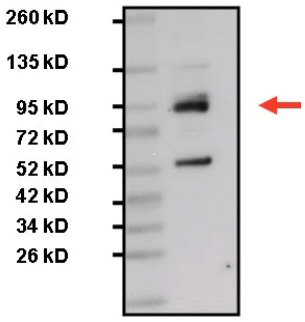
Secondary

All lanes:

goat anti-mouse-HRP at 1/20000 dilution

Developed using the ECL technique.

Predicted band size: 88 kDa



Western blot - Anti-STAT3 antibody [9D8] (ab119352)

STAT3 Western blot staining of HepG2 total lysate using mouse Anti-STAT3 antibody

4-20% Tris-HCl polyacrylamide gel
All lanes:
Western blot - Anti-STAT3 antibody [9D8] (ab119352) at 1/1000 dilution

All lanes:
HepG2 total lysate at 25 µg

Secondary

All lanes:
goat anti-mouse-HRP at 1/20000 dilution

Developed using the ECL technique.

Predicted band size: 88 kDa

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