abcam

ab251306

Anti-STAT5a+STAT5b antibody [EPR16668] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR16668
Purification technique	Affinity purification Protein A
Concentration	0.944 - 1.028 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Mouse, Rat
Dilution info	-

Notes	-

Expected

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

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

WB

Tested

Species	Mouse, Rat, Human, Recombinant full length protein - Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	-
Notes	-

Expected

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

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

Target data

See full target information STAT5B

Function	Carries out a dual function: signal transduction and activation of transcription (PubMed:29844444). Mediates cellular responses to the cytokine KITLG/SCF and other growth factors. Binds to the GAS element and activates PRL-induced transcription. Positively regulates hematopoietic/erythroid differentiation.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab251306 is the carrier-free version of ab200341.

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.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility

This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	The targets STAT5a and STAT5b also known as Signal Transducer and Activator of Transcription 5A and 5B form part of the STAT family and play essential mechanical roles in cellular signaling. Most commonly these proteins exhibit a molecular mass of approximately 90 kDa each. They are widely expressed in various tissues including the liver muscle and kidney as well as in different immune cells. STAT5a and STAT5b mediate signal transduction by getting phosphorylated dimerizing and translocating to the cell nucleus where they regulate the transcription of specific genes.
Biological function summary	These targets influence many cellular functions and contribute to cell proliferation differentiation and apoptosis. STAT5a and STAT5b often act as part of a larger transcriptional complex that binds to DNA and activates gene expression. In the immune system these proteins help modulate responses by regulating cytokine production. Their activity also extends to mammary gland development where they regulate milk production genes and they have roles in hematopoiesis affecting the development of blood cell types.

Pathways	The functions of STAT5a and STAT5b integrate mainly within the JAK-STAT signaling pathway which is pivotal for relaying cytokine signals from the cell membrane to the nucleus. This pathway links directly to proteins such as Janus kinases (JAKs) that phosphorylate STAT5 initiating its activation. Another key pathway is the PI3K-Akt signaling pathway where STAT5 can interact with components like mTOR to regulate cell growth and survival. These pathways are central to maintaining cellular homeostasis and immune function.
Associated diseases and disorders	STAT5a and STAT5b have significant connections to cancer and immune-related disorders. Abnormal STAT5 signaling often due to mutations or aberrant expression is linked to various hematological malignancies including leukemias. In these conditions STAT5 partners with oncogenic proteins like BCR-ABL leading to unchecked cell proliferation. Furthermore defective STAT5 signaling can contribute to immune dysregulation disorders where connections to proteins like IL-2R are important for normal immune response. Understanding these links opens avenues for targeted therapies that aim to modulate STAT5 activity in disease contexts.

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

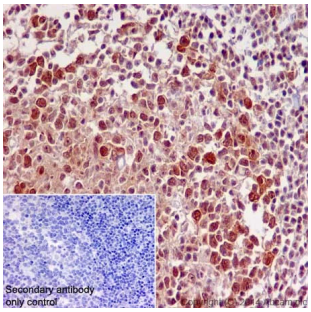
We do not recommend this combination. It is not covered by our product promise.

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



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-STAT5a+STAT5b antibody [EPR16668] - BSA and Azide free (ab251306)

STAT5a+STAT5b Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-STAT5a+STAT5b antibody

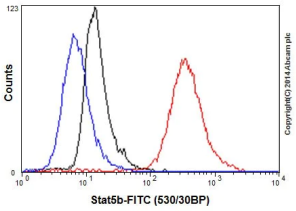
This data was developed using ab200341, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded Human tonsil tissue labeling STAT5b with ab200341 at 1/100 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) secondary antibody at 1/500 dilution.

Cytoplasm and nuclear staining on Human tonsil tissue is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

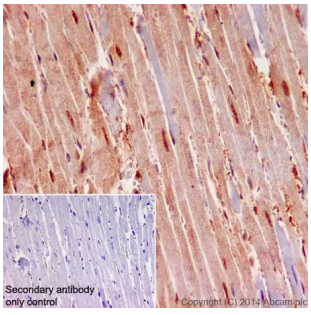
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-STAT5a+STAT5b antibody [EPR16668] - BSA and Azide free (ab251306)

STAT5a+STAT5b Flow Cytometry (Intracellular) staining using rabbit Anti-STAT5a+STAT5b antibody

This data was developed using ab200341, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of 2% paraformaldehyde-fixed NIH/3T3 (Mouse embyro fibroblast cells) cells labeling STAT5b with ab200341 at 1/80 dilution (red) compared with a rabbit monoclonal IgG isotype control (ab172730; black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (FITC) at 1/150 dilution was used as the secondary antibody.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-STAT5a+STAT5b antibody [EPR16668] - BSA and Azide free (ab251306)

STAT5a+STAT5b Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-STAT5a+STAT5b antibody

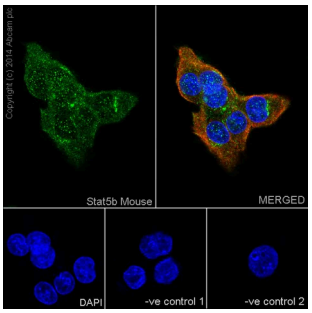
This data was developed using ab200341, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded Rat cardiac muscle tissue labeling STAT5b with ab200341 at 1/100 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) secondary antibody at 1/500 dilution.

Cytoplasm and nuclear staining on rat cardiac muscle tissue is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-STAT5a+STAT5b antibody [EPR16668] - BSA and Azide free (ab251306)

STAT5a+STAT5b Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-STAT5a+STAT5b antibody

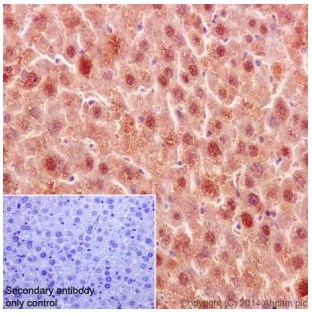
This data was developed using ab200341, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized C6 (Rat glial tumor cells) cells labeling STAT5b with ab200341 at 1/500 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/500 dilution (green).

Nuclear and cytoplasm staining on C6 cell line is observed.

The nuclear counter stain is DAPI (blue).

Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution and ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution (red).

The negative controls are as follows:
-ve control 1: ab200341 at 1/500 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution.
-ve control 2: ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution followed by ab150077 (Alexa Fluor®488 Goat Anti-Rabbit IgG H&L) at 1/500 dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-STAT5a+STAT5b antibody [EPR16668] - BSA and Azide free (ab251306)

STAT5a+STAT5b Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-STAT5a+STAT5b antibody

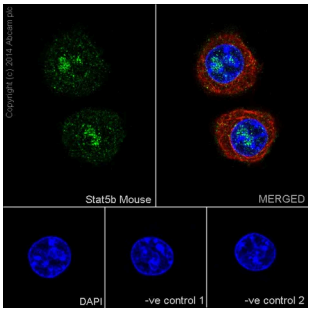
This data was developed using ab200341, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded Mouse liver tissue labeling STAT5b with ab200341 at 1/100 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) secondary antibody at 1/500 dilution.

Cytoplasm and nuclear staining on mouse liver tissue is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-STAT5a+STAT5b antibody [EPR16668] - BSA and Azide free (ab251306)

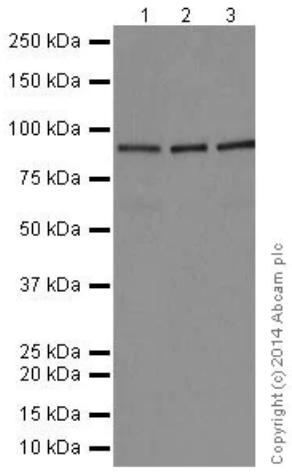
STAT5a+STAT5b Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-STAT5a+STAT5b antibody

This data was developed using ab200341, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized RAW 264.7 (Mouse macrophage cells transformed with Abelson murine leukemia virus) cells labeling STAT5b with ab200341 at 1/500 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/500 dilution (green).

Nuclear and cytoplasm staining on RAW 264.7 cell line is observed.

The nuclear counter stain is DAPI (blue). Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution and ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution (red).

The negative controls are as follows:
-ve control 1: ab200341 at 1/500 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution.
-ve control 2: ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution followed by ab150077 (Alexa Fluor®488 Goat Anti-Rabbit IgG H&L) at 1/500 dilution.



Western blot - Anti-STAT5a+STAT5b antibody [EPR16668] - BSA and Azide free (ab251306)

STAT5a+STAT5b Western blot staining using rabbit Anti-STAT5a+STAT5b antibody

This data was developed using ab200341, the same antibody clone in a different buffer formulation.
Blocking and dilution buffer: 5% NFDM/TBST.

All lanes:
Western blot - Anti-STAT5a + STAT5b antibody [EPR16668] (ab200341) at 1/1000 dilution

Lane 1:
K562 (Human chronic myelogenous leukemia cells from bone marrow) whole cell lysate at 10 µg

Lane 2:
Jurkat (Human T cell leukemia cells from peripheral blood) whole cell lysate at 10 µg

Lane 3:
Daudi (Human Burkitt's lymphoma cell line) whole cell lysate at 10 µg

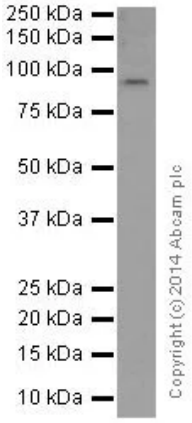
Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 90 kDa

Observed band size: 90 kDa

Exposure time: 3min



Western blot - Anti-STAT5a+STAT5b antibody [EPR16668] - BSA and Azide free (ab251306)

STAT5a+STAT5b Western blot staining of Full length human Stat5a recombinant protein using rabbit Anti-STAT5a+STAT5b antibody

This data was developed using ab200341, the same antibody clone in a different buffer formulation.
Blocking and dilution buffer: 5% NFDM/TBST.

ab200341 show cross reactivity with STAT5a. Full length human Stat5a recombinant protein contains aa1-794 with MYC/DDDDK tag.

All lanes:
Western blot - Anti-STAT5a + STAT5b antibody [EPR16668] (ab200341) at 1/200 dilution

All lanes:
Full length human Stat5a recombinant protein at 0.01 µg

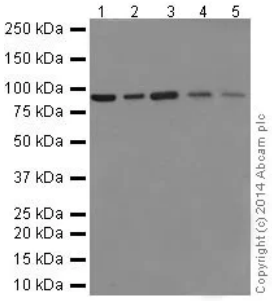
Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 90 kDa

Observed band size: 90 kDa

Exposure time: 3min



Western blot - Anti-STAT5a+STAT5b antibody [EPR16668] - BSA and Azide free (ab251306)

This data was developed using ab200341, the same antibody clone in a different buffer formulation.
Blocking and dilution buffer: 5% NFDM/TBST.

All lanes:
Western blot - Anti-STAT5a + STAT5b antibody [EPR16668] (ab200341) at 1/1000 dilution

Lane 1:
C6 (Rat glial tumor cells) whole cell lysate at 10 µg

Lane 2:
PC-12 (Rat adrenal gland pheochromocytoma) whole cell lysate at 10 µg

Lane 3:
NIH/3T3 (Mouse embyro fibroblast cells) whole cell lysate at 10 µg

Lane 4:
Mouse heart lysate at 10 µg

Lane 5:
Rat heart lysate at 10 µg

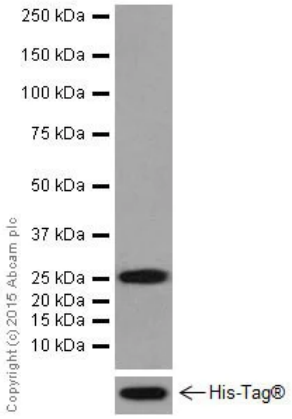
Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 90 kDa

Observed band size: 90 kDa

Exposure time: 3min



Western blot - Anti-STAT5a+STAT5b antibody [EPR16668] - BSA and Azide free (ab251306)

This data was developed using ab200341, the same antibody clone in a different buffer formulation.
Blocking and dilution buffer: 5% NFDM/TBST.

All lanes:
Western blot - Anti-STAT5a + STAT5b antibody [EPR16668] (ab200341) at 1/10000 dilution

All lanes:
Recombinant protein fragment mouse Stat5b at 0.01 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 90 kDa

Exposure time: 3min

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