abcam

## Product datasheet

# Anti-STAT3 (phospho S727) antibody [E121-31] - BSA and Azide free ab219593

Recombinant RabMAb

1 References 8 Images

### Overview

| | |
|---|---|
| **Product name** | Anti-STAT3 (phospho S727) antibody [E121-31] - BSA and Azide free |
| **Description** | Rabbit monoclonal [E121-31] to STAT3 (phospho S727) - BSA and Azide free |
| **Host species** | Rabbit |
| **Tested applications** | **Suitable for:** ICC/IF, WB, IHC-P, Dot blot |
| **Species reactivity** | **Reacts with:** Rat, Human<br>**Predicted to work with:** Horse, Cow, Macaque monkey |
| **Immunogen** | Synthetic peptide (the amino acid sequence is considered to be commercially sensitive) corresponding to Human STAT3 aa 700 to the C-terminus.<br>Database link: P40763 |
| **Positive control** | WB: A431 cell lysate. |
| **General notes** | ab219593 is the carrier-free version of ab32143 This format is designed for use in antibody labeling, including fluorochromes, metal isotopes, oligonucleotides, enzymes.<br><br>Our carrier-free formats are supplied in a buffer free of BSA, sodium azide and glycerol for higher conjugation efficiency.<br><br>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.<br><br>Ab219593 is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm.<br><br>*Maxpar® is a trademark of Fluidigm Canada Inc.*<br><br>Mouse: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.<br><br>This product is a recombinant monoclonal antibody, which offers several advantages including:<br>- High batch-to-batch consistency and reproducibility<br>- Improved sensitivity and specificity<br>- Long-term security of supply<br>- Animal-free production<br>For more information see here. |

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

Reproducibility is key to advancing scientific discovery and accelerating scientists' next breakthrough.

Abcam is leading the way with our range of recombinant antibodies, knockout-validated antibodies and knockout cell lines, all of which support improved reproducibility.

We are also planning to innovate the way in which we present recommended applications and species on our product datasheets, so that only applications & species that have been tested in our own labs, our suppliers or by selected trusted collaborators are covered by our Abpromise™ guarantee.

In preparation for this, we have started to update the applications & species that this product is Abpromise guaranteed for.

We are also updating the applications & species that this product has been "predicted to work with," however this information is not covered by our Abpromise guarantee.

Applications & species from publications and Abreviews that have not been tested in our own labs or in those of our suppliers are not covered by the Abpromise guarantee.

Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, as well as customer reviews and Q&As.

## Properties

| | |
|---|---|
| **Form** | Liquid |
| **Storage instructions** | Shipped at 4°C. Store at +4°C. Do Not Freeze. |
| **Storage buffer** | pH: 7.20<br>Constituent: PBS |
| **Carrier free** | Yes |
| **Purity** | Protein A purified |
| **Clonality** | Monoclonal |
| **Clone number** | E121-31 |
| **Isotype** | IgG |

## Applications

Our Abpromise guarantee covers the use of **ab219593** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

| Application | Abreviews | Notes |
|---|---|---|
| ICC/IF | | Use at an assay dependent concentration. |

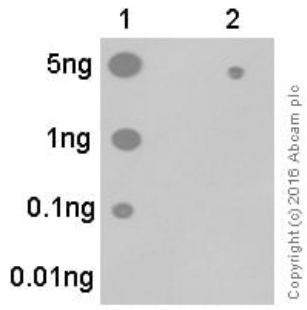
| Application | Abreviews | Notes |
|---|---|---|
| WB | | Use at an assay dependent concentration. Detects a band of approximately 98 kDa (predicted molecular weight: 88 kDa).<br>Stimulation may be required to allow detection of the phosphorylated protein. Please see images below for recommended treatment conditions and positive controls. |
| IHC-P | | Use at an assay dependent concentration. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.<br>See IHC antigen retrieval protocols. |
| Dot blot | | Use at an assay dependent concentration. |

## Target

| | |
|---|---|
| **Function** | Signal transducer and transcription activator that mediates cellular responses to interleukins, KITLG/SCF, LEP and other growth factors. Once activated, recruits coactivators, such as NCOA1 or MED1, to the promoter region of the target gene (PubMed:17344214). May mediate cellular responses to activated FGFR1, FGFR2, FGFR3 and FGFR4. Binds to the interleukin-6 (IL-6)-responsive elements identified in the promoters of various acute-phase protein genes. Activated by IL31 through IL31RA. 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. |
| **Tissue specificity** | Heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas. |
| **Involvement in disease** | Hyperimmunoglobulin E recurrent infection syndrome, autosomal dominant<br>Autoimmune disease, multisystem, infantile-onset |
| **Sequence similarities** | Belongs to the transcription factor STAT family.<br>Contains 1 SH2 domain. |
| **Post-translational modifications** | Tyrosine phosphorylated upon stimulation with EGF. Tyrosine phosphorylated in response to constitutively activated FGFR1, FGFR2, FGFR3 and FGFR4 (By similarity). Activated through tyrosine phosphorylation by BMX. Tyrosine phosphorylated in response to IL6, IL11, LIF, CNTF, KITLG/SCF, CSF1, EGF, PDGF, IFN-alpha, LEP and OSM. Activated KIT promotes phosphorylation on tyrosine residues and subsequent translocation to the nucleus. Phosphorylated on serine upon DNA damage, probably by ATM or ATR. Serine phosphorylation is important for the formation of stable DNA-binding STAT3 homodimers and maximal transcriptional activity. ARL2BP may participate in keeping the phosphorylated state of STAT3 within the nucleus. Upon LPS challenge, phosphorylated within the nucleus by IRAK1. Upon erythropoietin treatment, phosphorylated on Ser-727 by RPS6KA5. Phosphorylation at Tyr-705 by PTK6 or FER leads to an increase of its transcriptional activity. Dephosphorylation on tyrosine residues by PTPN2 negatively regulates IL6/interleukin-6 signaling. |
| **Cellular localization** | Cytoplasm. Nucleus. Shuttles between the nucleus and the cytoplasm. Translocated into the nucleus upon tyrosine phosphorylation and dimerization, in response to signaling by activated FGFR1, FGFR2, FGFR3 or FGFR4. Constitutive nuclear presence is independent of tyrosine phosphorylation. Predominantly present in the cytoplasm without stimuli. Upon leukemia inhibitory factor (LIF) stimulation, accumulates in the nucleus. The complex composed of BART and ARL2 |

plays an important role in the nuclear translocation and retention of STAT3. Identified in a complex with LYN and PAG1.

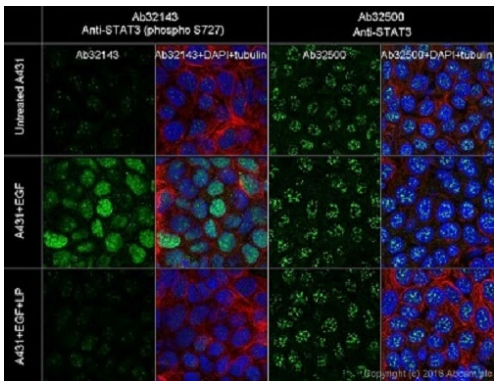
## Images




Dot Blot - Anti-STAT3 (phospho S727) antibody [E121-31] - BSA and Azide free (ab219593)

Dot Blot analysis of Lane 1: STAT3 (pS727) phospho peptide and Lane 2: STAT3 non-phospho peptide labeling STAT3 (phospho S727) with ab32143 at 1/1000 dilution (0.009 µg/ml). 5% NFDM /TBST was used as the diluting and blocking buffer and concentration. ab97051, Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated was used as the secondary antibody at 1/100,000 dilution. Exposure time: 10 seconds.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab32143).



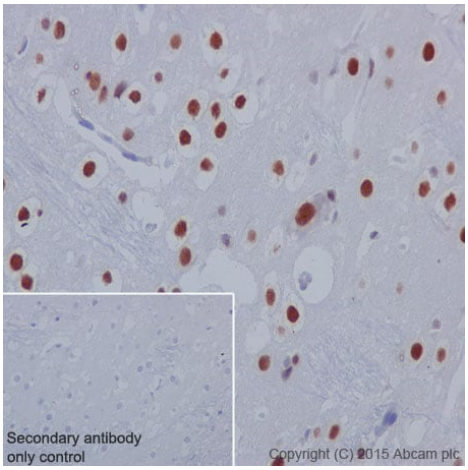

Immunocytochemistry/ Immunofluorescence - Anti-STAT3 (phospho S727) antibody [E121-31] - BSA and Azide free (ab219593)

Immunocytochemical/Immunofluorescence analysis of untreated, EGF treated and EGF + LP treated A431 cells labelling STAT3 (phospho S727) with ab32143 (left) and STAT3 with ab32500 (right) both at a dilution of 1/500.

Cells were fixed with 4% paraformaldehyde and permeabilized with 0.1% Triton X-100. Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) (1/1000) was used as the secondary antibody (green). DAPI (blue) was used as the nuclear counterstain. Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) (ab195889) (1/200) was used as a counterstain (red).

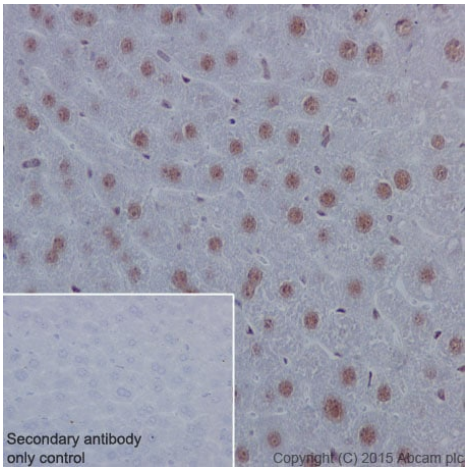
The green staining was increased and translocated from the cytoplasm into the nucleus in the EGF (ab9697 100ng/ml, 10min) treated A431 cells when compared with A431 cells without treatment. After LP treatment, the green signal was decreased. For the pan antibody, there was no great difference after EGF (100ng/ml, 10min) or EGF (100ng/ml, 10min) + LP treatment.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab32143).



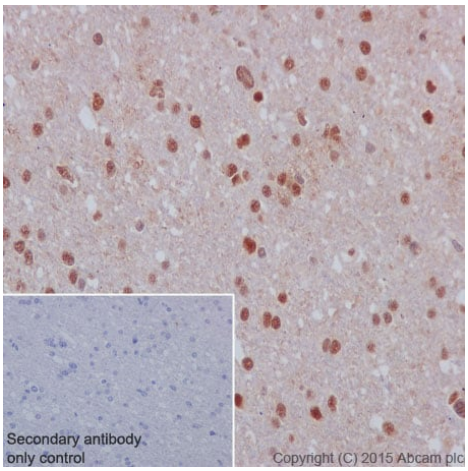

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-STAT3 (phospho S727) antibody [E121-31] - BSA and Azide free (ab219593)

Immunohistochemical staining of paraffin embedded rat cerebral cortex with purified ab32143 at a working dilution of 1/250. The secondary antibody used is HRP goat anti-rabbit IgG H&L (ab97051) at 1/500. The sample is counter-stained with hematoxylin. Antigen retrieval was perfomed using Tris-EDTA buffer, pH 9.0. PBS was used instead of the primary antibody as the negative control, and is shown in the inset.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab32143).



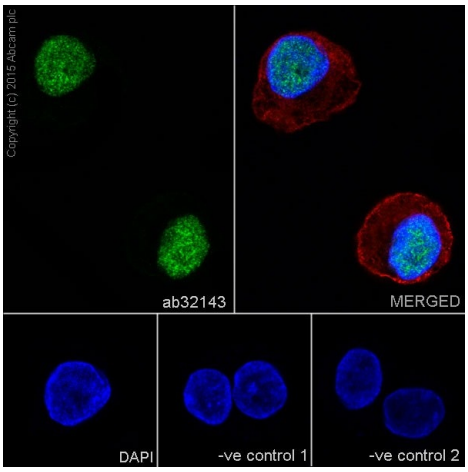

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-STAT3 (phospho S727) antibody [E121-31] - BSA and Azide free (ab219593)

Immunohistochemical staining of paraffin embedded mouse liver with purified ab32143 at a working dilution of 1/250. The secondary antibody used is HRP goat anti-rabbit IgG H&L (ab97051) at 1/500. The sample is counter-stained with hematoxylin. Antigen retrieval was perfomed using Tris-EDTA buffer, pH 9.0. PBS was used instead of the primary antibody as the negative control, and is shown in the inset.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab32143).




Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-STAT3 (phospho S727) antibody [E121-31] - BSA and Azide free (ab219593)

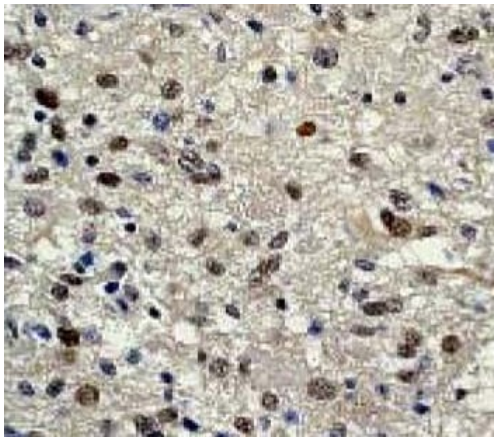
Immunohistochemical staining of paraffin embedded human astrocytoma with purified ab32143 at a working dilution of 1/250. The secondary antibody used is HRP goat anti-rabbit IgG H&L (ab97051) at 1/500. The sample is counter-stained with hematoxylin. Antigen retrieval was perfomed using Tris-EDTA buffer, pH 9.0. PBS was used instead of the primary antibody as the negative control, and is shown in the inset.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab32143).




Immunocytochemistry/ Immunofluorescence - Anti-STAT3 (phospho S727) antibody [E121-31] - BSA and Azide free (ab219593)

Purified ab32143 staining STAT3 (phospho S727) in A431 cells by Immunocytochemistry/ Immunofluorescence. 4% PFA-fixed, 0.1% Triton X-100 permeabilized A431 (Human epidermoid carcinoma) cells labelled with ab32143 at 1/500 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor 488) (ab150077) secondary antibody at 1/400 dilution (green). Confocal image showing nuclear staining on A431 cell line. The red staining is ab7291 anti-Tubulin (mouse mAb), followed by Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) (ab150120) secondary antibody.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab32143).

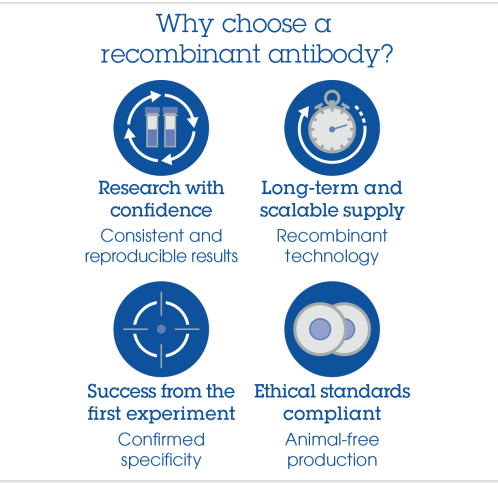


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-STAT3 (phospho S727) antibody [E121-31] - BSA and Azide free (ab219593)

IHC-P analysis of brain astrocytoma using unpurified ab32143 at 1/50 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab32143).

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.




Anti-STAT3 (phospho S727) antibody [E121-31] - BSA and Azide free (ab219593)



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