abcam

Product datasheet

# Anti-STAT3 (phospho S727) antibody ab86430

★★★★★ 2 Abreviews 9 References 3 Images

## Overview

| | |
|---|---|
| **Product name** | Anti-STAT3 (phospho S727) antibody |
| **Description** | Rabbit polyclonal to STAT3 (phospho S727) |
| **Host species** | Rabbit |
| **Specificity** | The antibody is blocked in Western blot by STAT3 phospho S727 peptide and partially blocked by unmodified STAT3 peptide (there is <30% cross reactivity with unmodified STAT3 as determined by ELISA). |
| **Tested applications** | **Suitable for:** ICC/IF, WB |
| **Species reactivity** | **Reacts with:** Mouse, Human<br>**Predicted to work with:** Rat, Chicken, Cow, Pig |
| **Immunogen** | Synthetic peptide corresponding to Human STAT3 aa 700 to the C-terminus (phospho S727) conjugated to keyhole limpet haemocyanin.<br>Database link: **P40763** |
| **General notes** | The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.<br>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, along with publications, customer reviews and Q&As |

## Properties

| | |
|---|---|
| **Form** | Liquid |
| **Storage instructions** | Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle. |
| **Storage buffer** | pH: 7.40<br>Preservative: 0.02% Sodium azide<br>Constituent: PBS<br><br>Batches of this product that have a concentration < 1mg/ml may have BSA added as a stabilising agent. If you would like information about the formulation of a specific lot, please contact our scientific support team who will be happy to help. |

| | |
|---|---|
| **Purity** | Immunogen affinity purified |
| **Clonality** | Polyclonal |
| **Isotype** | IgG |

## Applications

**The Abpromise guarantee** Our **Abpromise guarantee** covers the use of ab86430 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 a concentration of 1 µg/ml. |
| **WB** | ★★★★★ (1) | 1/250. Detects a band of approximately 88 kDa (predicted molecular weight: 88 kDa). |

## 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
Autoimmune disease, multisystem, infantile-onset

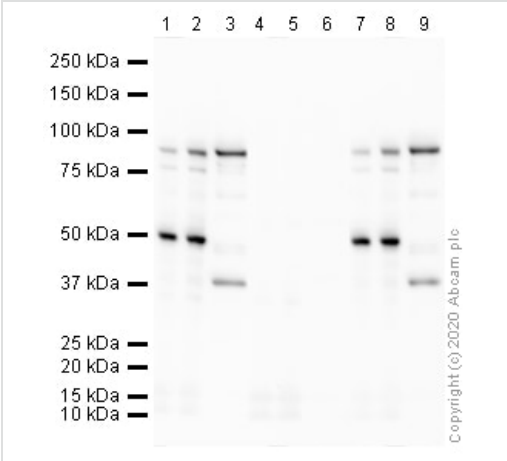
**Sequence similarities** Belongs to the transcription factor STAT family.
Contains 1 SH2 domain.

**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




Western blot - Anti-STAT3 (phospho S727) antibody (ab86430)

**All lanes :** Anti-STAT3 (phospho S727) antibody (ab86430) at 1 µg/ml

**Lane 1 :** A431 (Human epithelial carcinoma cell line) Whole Cell Lysate
**Lane 2 :** A431 (Human epithelial carcinoma cell line) EGF Stimulated Whole Cell Lysate
**Lane 3 :** NIH 3T3 (Mouse embryonic fibroblast cell line) Whole Cell Lysate
**Lane 4 :** A431 (Human epithelial carcinoma cell line) Whole Cell Lysate with Immunising Peptide at 1/250 dilution
**Lane 5 :** A431 (Human epithelial carcinoma cell line) EGF Stimulated Whole Cell Lysate with Immunising Peptide at 1/250 dilution
**Lane 6 :** NIH 3T3 (Mouse embryonic fibroblast cell line) Whole Cell Lysate with Immunising Peptide at 1/250 dilution
**Lane 7 :** A431 (Human epithelial carcinoma cell line) Whole Cell Lysate with Non-Modified Control Peptide at 1/250 dilution
**Lane 8 :** A431 (Human epithelial carcinoma cell line) EGF Stimulated Whole Cell Lysate with Non-Modified Control Peptide at 1/250 dilution
**Lane 9 :** NIH 3T3 (Mouse embryonic fibroblast cell line) Whole Cell Lysate with Non-Modified Control Peptide at 1/250 dilution

Lysates/proteins at 10 µg per lane.

**Secondary**
**All lanes :** Goat Anti-Rabbit IgG H&L (HRP) preadsorbed at 1/50000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

**Predicted band size:** 88 kDa

**Observed band size:** 88 kDa

**Exposure time:** 8 minutes

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 2% Bovine Serum Albumin before being incubated with ab86430 overnight at 4°C. Antibody binding was detected using an anti-rabbit antibody conjugated to HRP, and visualised using ECL development solution **ab133406**.


Western blot - Anti-STAT3 (phospho S727) antibody (ab86430)

Anti-STAT3 (phospho S727) antibody (ab86430) at 1 µg/ml + NIH 3T3 (Mouse embryonic fibroblast cell line) Whole Cell Lysate at 10 µg

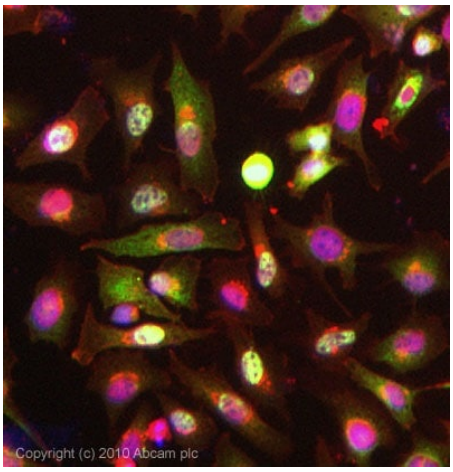
**Secondary**
Goat Anti-Rabbit IgG H&L (HRP) preadsorbed (**ab97080**) at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

**Predicted band size:** 88 kDa
**Observed band size:** 88 kDa
**Additional bands at:** 180 kDa, 40 kDa, 70 kDa. We are unsure as to the identity of these extra bands.

**Exposure time:** 4 minutes




Immunocytochemistry/ Immunofluorescence - Anti-STAT3 (phospho S727) antibody (ab86430)

ICC/IF image of ab86430 stained HeLa cells. The cells were 4% formaldehyde fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody ab86430 at 1µg/ml overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti- rabbit IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM. This antibody also gave a positive result in Hek293, HepG2, and MCF-7 formaldehyde (4%, 10min) fixed cells at 1ug/ml, and also in HeLa, Hek293, HepG2, and MCF-7 Methanol (100%, 5min) fixed cells at 1ug/ml.



## Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit **https://www.abcam.com/abpromise** or contact our technical team.

## Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors