

## Product datasheet

# Anti-STAT3 (phospho Y705) antibody [EP2147Y] ab76315

Recombinant RabMAb

★★★★☆ 12 Abreviews 88 References 7 Images

### Overview

<b>Product name</b>	Anti-STAT3 (phospho Y705) antibody [EP2147Y]
<b>Description</b>	Rabbit monoclonal [EP2147Y] to STAT3 (phospho Y705)
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> WB, IP, IHC-P, Dot blot, ICC/IF
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Rat, Human
<b>Immunogen</b>	Synthetic peptide within Human STAT3 aa 650-750 (phospho Y705). The exact sequence is proprietary. Database link: <a href="#">P40763</a> (Peptide available as <a href="#">ab179551</a> )
<b>Positive control</b>	WB: HeLa cell lysate treated with alpha-interferon. IHC-P: Human colon adenocarcinoma and kidney tissues. IP: A431 cells treated with EGF.
<b>General notes</b>	A trial size is available to purchase for this antibody. Our RabMAb <sup>®</sup> technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to <a href="#">RabMab<sup>®</sup> patents</a> <b>We are constantly working hard to ensure we provide our customers with best in class antibodies. As a result of this work we are pleased to now offer this antibody in purified format. We are in the process of updating our datasheets. The purified format is designated 'PUR' on our product labels. If you have any questions regarding this update, please contact our Scientific Support team.</b> This product is a recombinant rabbit monoclonal antibody.

### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.
<b>Storage buffer</b>	pH: 7.20 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol, 0.05% BSA
<b>Purity</b>	Protein A purified

<b>Clonality</b>	Monoclonal
<b>Clone number</b>	EP2147Y
<b>Isotype</b>	IgG

## Applications

Our [Abpromise guarantee](#) covers the use of **ab76315** 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
WB	★★★★☆	1/2000 - 1/20000. Predicted molecular weight: 88 kDa. Can be blocked with <a href="#">STAT3 (phospho Y705) peptide (ab179551)</a> .
IP		1/20.
IHC-P	★★★★☆	1/50 - 1/100. Perform heat mediated antigen retrieval before commencing with IHC staining protocol. See <a href="#">IHC antigen retrieval protocols</a> .
Dot blot		1/1000.
ICC/IF		1/500.

## 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 transactivating 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

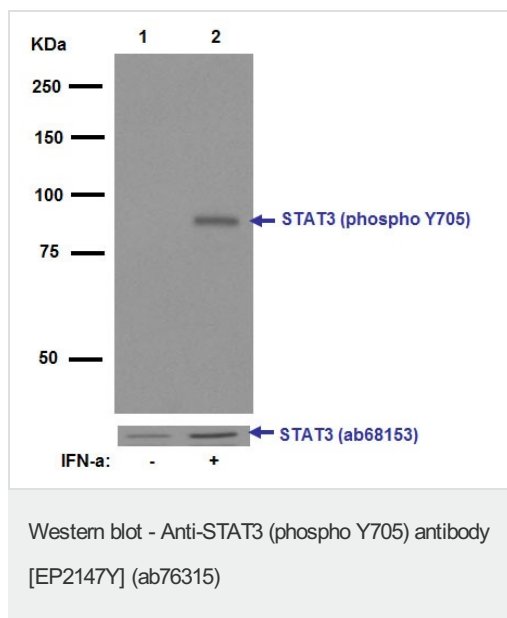
Tyrosine phosphorylated upon stimulation with EGF. Tyrosine phosphorylated in response to constitutively activated FGFR1, FGFR2, FGFR3 and FGFR4 (By similarity). Activated through tyrosine phosphorylation by BMX. Tyrosine phosphorylated in response to IL6, IL11, LIF, CNTF, KITLG/SCF, CSF1, EGF, PDGF, 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



**All lanes :** Anti-STAT3 (phospho Y705) antibody [EP2147Y] (ab76315) at 1/20000 dilution (purified)

**Lane 1 :** Un-treated HeLa (Human epithelial cell line from cervix adenocarcinoma )cell lysate

**Lane 2 :** HeLa cell lysate - treated with IFN-α

Lysates/proteins at 10 µg per lane.

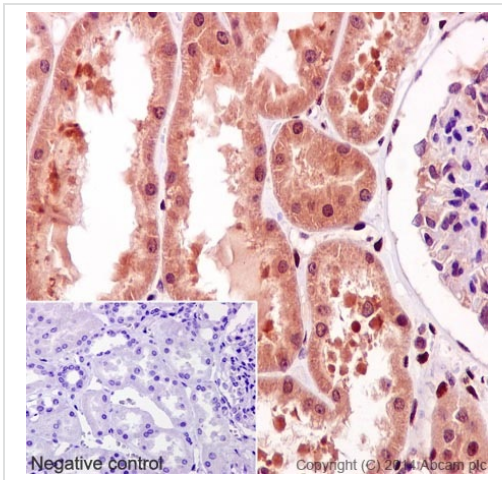
#### Secondary

**All lanes :** Peroxidase-conjugated goat anti-rabbit IgG (H+L) at 1/1000 dilution

**Predicted band size:** 88 kDa

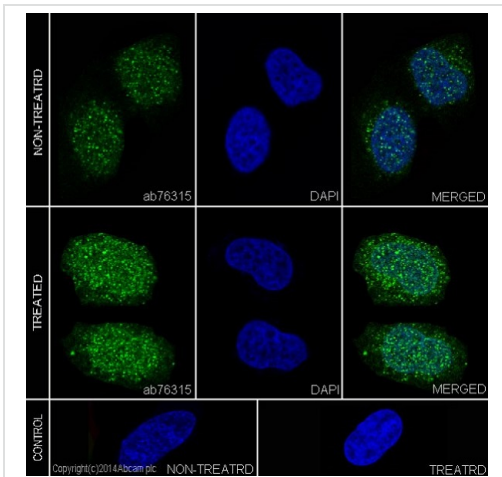
**Observed band size:** 88 kDa

**Blocking/Dilution buffer:** 5% NFD/MTBST.



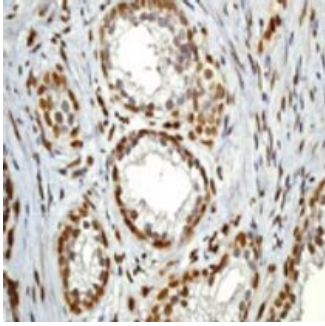
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human kidney tissue labeling STAT3 (phospho Y705) with purified ab76315 at 1/100. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. [ab97051](#), a HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-STAT3 (phospho Y705) antibody [EP2147Y] (ab76315)



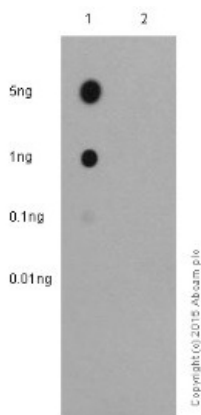
Immunocytochemistry/Immunofluorescence analysis of HeLa (Human epithelial cell line from cervix adenocarcinoma) +/- IFN- $\alpha$  (50 ng/mL, 5 minutes) cells labelling STAT3 (phospho Y705) with ab76315 at 1/500 (4.3  $\mu$ g/mL). Cells were fixed with 4% paraformaldehyde and permeabilized with 0.1% Triton X-100. [ab150077](#), Alexa Fluor<sup>®</sup> 488-conjugated goat anti-rabbit IgG (1/1500) was used as the secondary antibody. DAPI (blue) was used as a nuclear counterstain.

Immunocytochemistry/ Immunofluorescence - Anti-STAT3 (phospho Y705) antibody [EP2147Y] (ab76315)



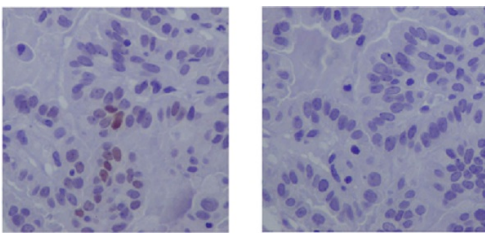
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-STAT3 (phospho Y705) antibody [EP2147Y] (ab76315)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human colon carcinoma tissue labeling STAT3 (phospho Y705) with unpurified ab76315 at 1/100.



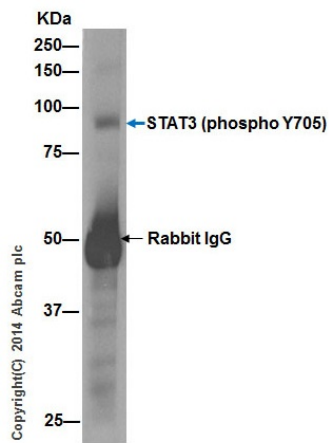
Dot Blot - Anti-STAT3 (phospho Y705) antibody [EP2147Y] (ab76315)

Dot blot analysis of STAT3 single phospho peptide pY705 (lane 1) and STAT3 non-phospho peptide (lane 2) with ab76315 at 1/1000. Blocking and dilution buffer was 5% NFDm/TBST. The secondary antibody used was [ab97051](#) peroxidase conjugated Goat Anti-Rabbit IgG, (H+L) at 1/100,000.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-STAT3 (phospho Y705) antibody [EP2147Y] (ab76315)

Immunohistochemical analysis of paraffin-embedded human thyroid carcinoma tissue using untreated (left) or alkaline phosphatase-treated (right) labeling STAT3 (phospho Y705) with ab76315 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H& L (HRP) ([ab97051](#)) at 1/500 dilution. Counter stained with Hematoxylin.



Immunoprecipitation - Anti-STAT3 (phospho Y705)  
antibody [EP2147Y] (ab76315)

ab76315 (purified) at 1/30  
immunoprecipitating STAT3 (phospho Y705)  
in A431 (Human epidermoid carcinoma cell  
line) cell lysate treated with EGF. For western  
blotting, a peroxidase-conjugated goat anti-  
rabbit IgG (H+L) was used as the secondary  
antibody (1/1000).

Blocking/Dilution buffer: 5% NFD/MTBST.

**Please note:** All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE"

### 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 <http://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