abcam

Product datasheet

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

リコンビナント RabMAb

19 Abreviews 535 References 画像数 11

製品の概要

製品名	Anti-STAT3 (phospho Y705) antibody [EP2147Y]
製品の詳細	Rabbit monoclonal [EP2147Y] to STAT3 (phospho Y705)
由来種	Rabbit
アプリケーション	**適用あり:** Flow Cyt (Intra), WB, IP, IHC-P, Dot blot, ICC/IF, ELISA
種交差性	**交差種:** Mouse, Human **交差が予測される動物種:** Rat
免疫原	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers. (Peptide available as **ab179551**)
ポジティブ・コントロール	WB: HeLa cell lysate treated with alpha-interferon. IHC-P: Rat colon tissue, mouse colon tissue, mouse spleen tissue and human thyroid carcinoma tissue. ICC/IF: HeLa cells treated with alpha-interferon; U251 cells. IP: A431 cells treated with EGF. Flow Cyt (intra): A431 cells.
特記事項	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 production 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**.

製品の特性

製品の状態	Liquid
保存方法	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.
バッファー	pH: 7.20 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol, 0.05% BSA
精製度	Protein A purified
ポリ/モノ	モノクローナル

クローン名	EP2147Y
アイソタイプ	IgG

アプリケーション

The Abpromise guarantee **Abpromise保証は、** 次のテスト済みアプリケーションにおけるab76315の使用に適用されます

アプリケーションノートには、推奨の開始希釈率がありますが、適切な希釈率につきましてはご検討ください。

アプリケーション	Abreviews	特記事項
Flow Cyt (Intra)		1/500.
WB	★★★★★ (9)	1/2000 - 1/20000. Predicted molecular weight: 88 kDa.Can be blocked with **STAT3 (phospho Y705) peptide (ab179551)**. Stimulation may be required to allow detection of the phosphorylated protein. Please see images below for recommended treatment conditions and positive controls.
IP		1/20.
IHC-P	★★★★☆ (6)	1/50 - 1/100. Perform heat mediated antigen retrieval before commencing with IHC staining protocol. See **IHC antigen retrieval protocols**.
Dot blot		1/1000.
ICC/IF	★★★★☆ (2)	1/500.
ELISA	★★★★★ (1)	Use at an assay dependent concentration.

ターゲット情報

機能	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.
組織特異性	Heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas.
関連疾患	Hyperimmunoglobulin E recurrent infection syndrome, autosomal dominant Autoimmune disease, multisystem, infantile-onset
配列類似性	Belongs to the transcription factor STAT family. Contains 1 SH2 domain.

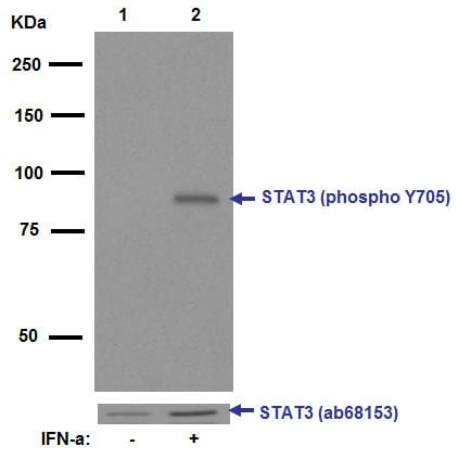
翻訳後修飾

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.

細胞内局在

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.

画像



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

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

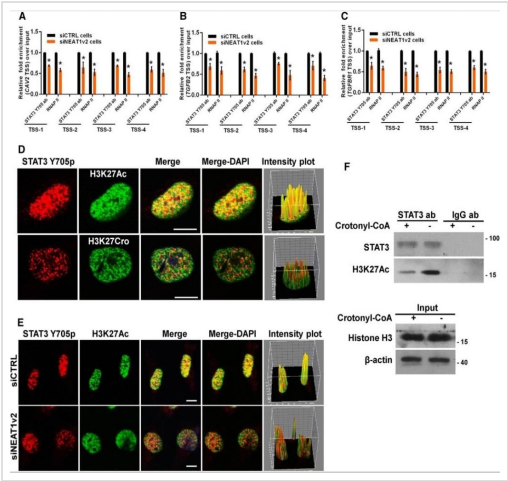
Lane 1 : Un-treated HeLa (Human epithelial cell line from cervix adenocarcinoma)cell lysate
Lane 2 : HeLa cell lysate - treated with IFN-a

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

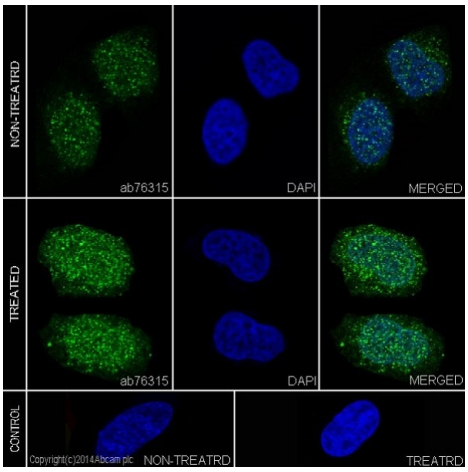
Blocking/Dilution buffer: 5% NFDM/TBST.



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

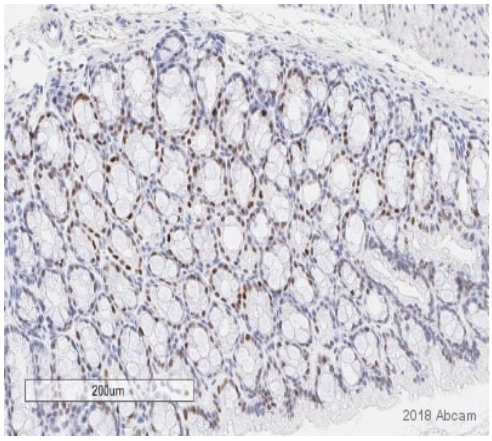
Image from Wang Z et al., Cell Mol Life Sci. 76(15), Fig 8. Doi: 10.1007/s00018-019-03074-9. Reproduced under the Creative Commons license http://creativecommons.org/licenses/by/4.0/.

NEAT1 influences STAT3 binding to endocytosis-related genes. The siNEAT1 and siCTRL cells were collected for ChIP assays to analyse the relative fold enrichment of the *CAV2* (**a**), *TGFB2* (**b**), or *TGFBR1* promoter (**c**) with anti-STAT3 or RNAP II antibodies. The data points represent the mean values determined from three independent experiments. The data are presented as the mean ± SD. **d** The U251 cells were fixed and incubated with anti-STAT3 (red), anti-H3K27Ac (green) or anti-H3K27Cro antibodies (green) before the confocal analysis. The intensity plots for the red and green channels were analysed with the ImageJ software. Scale bars 10 µm. **e** After transfection with the siNEAT1v2 or negative control siRNA, the U251 cells were fixed and incubated with anti-STAT3 (red) or anti-H3K27Ac antibodies (green) before the confocal analysis. The intensity plots for the red and green channels were analysed with the ImageJ software. Scale bars 10 µm. **f** After 24 h of incubation with 80 µm crotonyl-CoA or the mock control, the U251 cell lysates were harvested and subjected to an immunoprecipitation assay with anti-STAT3 or anti-IgG antibodies. The retrieval of STAT3, H3K27Ac, H3K27Cro+ and Histone H3 by endogenous STAT3 and IgG was measured by western blotting. *$p < 0.001$



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

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

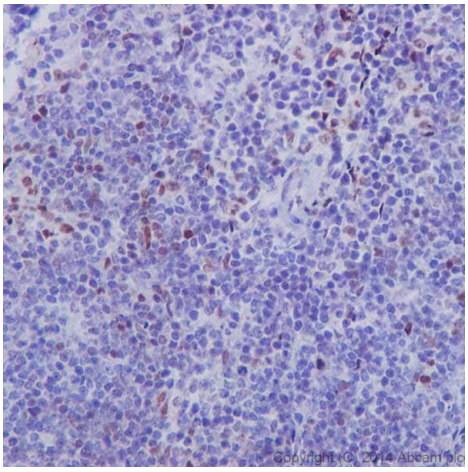


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-STAT3 (phospho Y705) antibody [EP2147Y] (ab76315)

This image was courtesy on an anonymous Abreview

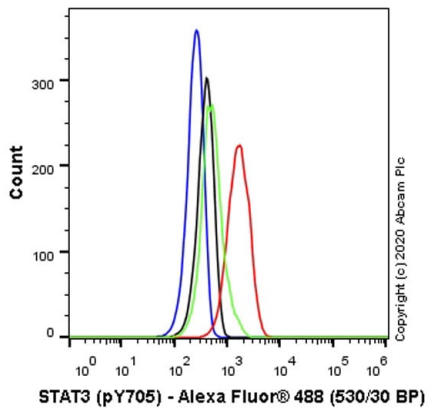
Immunohistochemical analysis of formalin-fixed, paraffin-embedded mouse colon tissue stained for STAT3 using ab76315 at 1/1000 dilution followed by a Horse radish peroxidase conjugated Goat anti-Rabbit secondary antibody at 1/400 dilution.

Antigen Retrieval: Heat mediated - Buffer/Enzyme Used: pH 9.0 EDTA 70C 2hr.



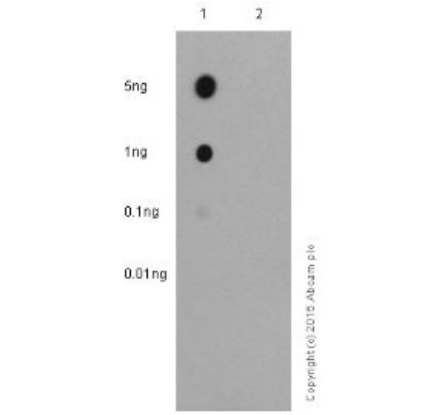
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-STAT3 (phospho Y705) antibody [EP2147Y] (ab76315)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse spleen tissue labeling STAT3 (phospho Y705) with ab76315 at 1/100 (nuclear staining). Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. A HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody. Counterstained with hematoxylin.



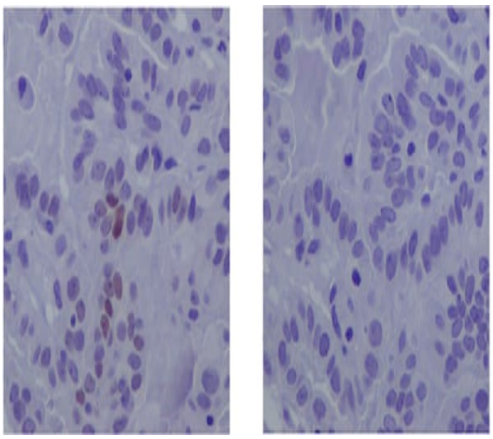
Flow Cytometry (Intracellular) - Anti-STAT3 (phospho Y705) antibody [EP2147Y] (ab76315)

Intracellular flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized A431 (Human epidermoid carcinoma epithelial cell) treated with 100ng/mL EGF for 10min (Red) / Untreated control (Green) cells labelling STAT3 with ab76315 at 1/500 dilution (0.1µg) (Red) and Green compared with a Rabbit monoclonal IgG (**ab172730**) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat anti rabbit IgG (Alexa Fluor® 488, **ab150077**) at 1/2000 dilution was used as the secondary antibody.



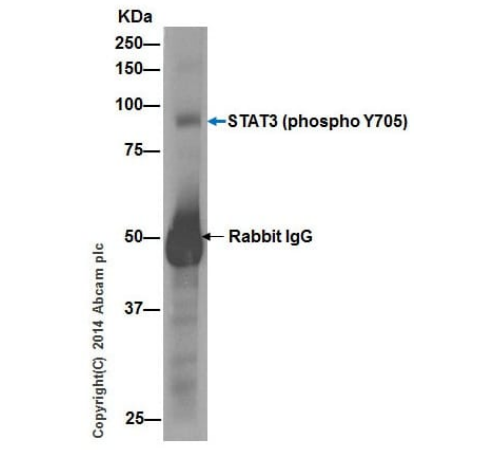
Dot Blot - Anti-STAT3 (phospho Y705) antibody [EP2147Y] (ab76315)

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)

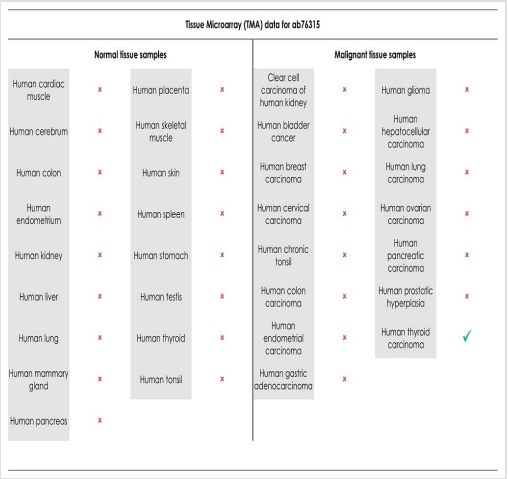
Immunohistochemical analysis of paraffin-embedded human thyroid carcinoma tissue using untreated (left) or alkaline phosphatase-treated (right) labeling STAT3 (phospho Y705) with ab76315 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H& L (HRP) (**ab97051**) at 1/500 dilution. Counter stained with Hematoxylin. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9.



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% NFDM/TBST.



Tissue Microarray (TMA) data for ab76315

Normal tissue samples				Malignant tissue samples			
Human cardiac muscle	x	Human placenta	x	Clear cell carcinoma of human kidney	x	Human glioma	x
Human cerebrum	x	Human skeletal muscle	x	Human bladder cancer	x	Human hepatocellular carcinoma	x
Human colon	x	Human skin	x	Human breast carcinoma	x	Human lung carcinoma	x
Human endometrium	x	Human spleen	x	Human cervical carcinoma	x	Human ovarian carcinoma	x
Human kidney	x	Human stomach	x	Human chronic tonsil	x	Human pancreatic carcinoma	x
Human liver	x	Human testis	x	Human colon carcinoma	x	Human prostatic hyperplasia	x
Human lung	x	Human thyroid	x	Human endometrial carcinoma	x	Human thyroid carcinoma	✓
Human mammary gland	x	Human tonsil	x	Human gastric adenocarcinoma	x		
Human pancreas	x						

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

Tissue Microarrays stained for "Anti-STAT3 (phospho Y705) antibody [EP2147Y]" using "ab76315" in immunohistochemical analysis. This table provides a detailed overview of positive (tick mark) and negative (cross mark) staining per sample type tested. The sections were pre-treated using Heat mediated antigen retrieval using **ab97051** (Tris/EDTA buffer, pH 9.0). The sections were incubated with ab76315 at +4°C overnight followed by Goat Anti-Rabbit IgG H&L (HRP) **ab97051** at 1/500.

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

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