abcam

Product datasheet

# Anti-STAT1 alpha antibody [EPYR2154] ab92506

敲除验证 重组 RabMAb

2 Abreviews 19 References 7 图像

## 概述

| | |
|---|---|
| **产品名称** | Anti-STAT1 alpha抗体[EPYR2154] |
| **描述** | 兔单克隆抗体[EPYR2154] to STAT1 alpha |
| **宿主** | Rabbit |
| **特异性** | Based on Blast results using the immunogen sequence, this antibody should recognise the alpha but not the beta form (only 30% homology) of Stat1. |
| **经测试应用** | **适用于:** WB, IP<br>**不适用于:** Flow Cyt |
| **种属反应性** | **与反应:** Mouse, Human |
| **免疫原** | Synthetic peptide. This information is proprietary to Abcam and/or its suppliers. |
| **阳性对照** | HeLa, HEK293, NIH-3T3 and A431 cell lysates, mouse brain tissue lysate |
| **常规说明** | 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**.<br>Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.<br><br>Rat: We have preliminary internal testing data to indicate this antibody may not react with this species. Please contact us for more information. |

## 性能

| | |
|---|---|
| **形式** | Liquid |
| **存放说明** | Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle. |
| **存储溶液** | pH: 7.20<br>Preservative: 0.01% Sodium azide<br>Constituents: 59% PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA |

| | |
|---|---|
| **纯度** | Protein A purified |
| **克隆** | 单克隆 |
| **克隆编号** | EPYR2154 |
| **同种型** | IgG |

## 应用

**The Abpromise guarantee** Abpromise™承诺保证使用ab92506于以下的经测试应用

"应用说明"部分 下显示的仅为推荐的起始稀释度;实际最佳的稀释度/浓度应由使用者检定。

| 应用 | Ab评论 | 说明 |
|---|---|---|
| **WB** | ★★★★☆ (2) | 1/1000 - 1/2000. Predicted molecular weight: 87 kDa. |
| **IP** | | 1/20 - 1/50. |

**应用说明** Is unsuitable for Flow Cyt.

## 靶标

**功能** Signal transducer and activator of transcription that mediates signaling by interferons (IFNs). Following type I IFN (IFN-alpha and IFN-beta) binding to cell surface receptors, Jak kinases (TYK2 and JAK1) are activated, leading to tyrosine phosphorylation of STAT1 and STAT2. The phosphorylated STATs dimerize, associate with ISGF3G/IRF-9 to form a complex termed ISGF3 transcription factor, that enters the nucleus. ISGF3 binds to the IFN stimulated response element (ISRE) to activate the transcription of interferon stimulated genes, which drive the cell in an antiviral state. In response to type II IFN (IFN-gamma), STAT1 is tyrosine- and serine-phosphorylated. It then forms a homodimer termed IFN-gamma-activated factor (GAF), migrates into the nucleus and binds to the IFN gamma activated sequence (GAS) to drive the expression of the target genes, inducing a cellular antiviral state.

**疾病相关** Note=STAT1 deficiency results in impaired immune response leading to severe mycobacterial and viral diseases. In the case of complete deficiency, patients can die of viral disease.
Defects in STAT1 are a cause of mendelian susceptibility to mycobacterial disease (MSMD) [MIM:209950]; also known as familial disseminated atypical mycobacterial infection. This rare condition confers predisposition to illness caused by moderately virulent mycobacterial species, such as Bacillus Calmette-Guerin (BCG) vaccine and environmental non-tuberculous mycobacteria, and by the more virulent Mycobacterium tuberculosis. Other microorganisms rarely cause severe clinical disease in individuals with susceptibility to mycobacterial infections, with the exception of Salmonella which infects less than 50% of these individuals. The pathogenic mechanism underlying MSMD is the impairment of interferon-gamma mediated immunity whose severity determines the clinical outcome. Some patients die of overwhelming mycobacterial disease with lepromatous-like lesions in early childhood, whereas others develop, later in life, disseminated but curable infections with tuberculoid granulomas. MSMD is a genetically heterogeneous disease with autosomal recessive, autosomal dominant or X-linked inheritance.

**序列相似性** Belongs to the transcription factor STAT family.
Contains 1 SH2 domain.

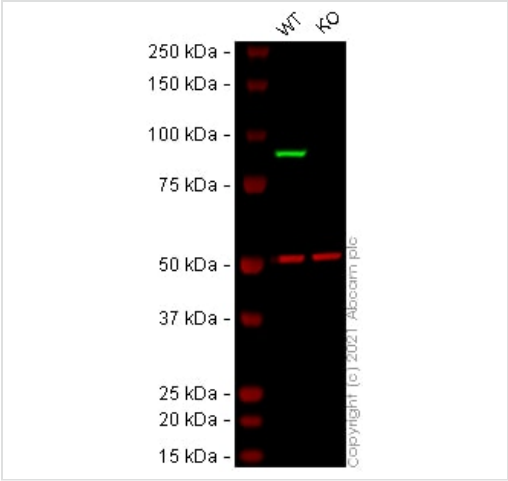
**翻译后修饰** Phosphorylated on tyrosine and serine residues in response to IFN-alpha, IFN-gamma, PDGF and EGF. Phosphorylation on Tyr-701 (lacking in beta form) by JAK promotes dimerization and

subsequent translocation to the nucleus. Phosphorylation on Ser-727 by several kinases including MAPK14, ERK1/2 and CAMKII on IFN-gamma stimulation, regulates STAT1 transcriptional activity. Phosphorylation on Ser-727 promotes sumoylation though increasing interaction with PIAS. Phosphorylation on Ser-727 by PKCdelta induces apoptosis in response to DNA-damaging agents.
Sumoylated by SUMO1, SUMO2 and SUMO3. Sumoylation is enhanced by IFN-gamma-induced phosphorylation on Ser-727, and by interaction with PIAS proteins. Enhances the transactivation activity.
ISGylated.

**细胞定位**

Cytoplasm. Nucleus. Translocated into the nucleus in response to IFN-gamma-induced tyrosine phosphorylation and dimerization.

## 图片




Western blot - Anti-STAT1 alpha antibody [EPYR2154] (ab92506)

**All lanes :** Anti-STAT1 alpha antibody [EPYR2154] (ab92506) at 1/1000 dilution

**Lane 1 :** Wild-type HeLa cell lysate
**Lane 2 :** STAT1 knockout HeLa cell lysate

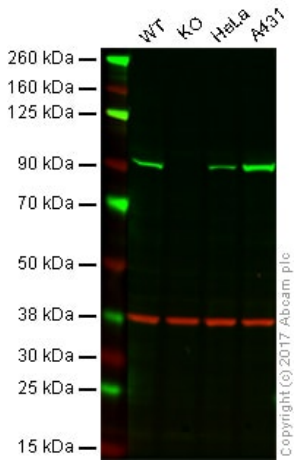
Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

**Predicted band size:** 87 kDa
**Observed band size:** 85 kDa

**Lanes 1 - 2:** Merged signal (red and green). Green - ab92506 observed at 85 kDa. Red - loading control **ab7291** (Mouse anti-Alpha Tubulin [DM1A]) observed at 55 kDa.

ab92506 was shown to react with STAT1 alpha in wild-type HeLa cells in Western blot with loss of signal observed in STAT1 knockout cell line **ab255346** (STAT1 knockout cell lysate **ab263837**). Wild-type HeLa and STAT1 knockout cell lysates were subjected to SDS-PAGE. Membranes were blocked in 3 % milk in TBS-T (0.1 % Tween®) before incubation with ab92506 and **ab7291** (Mouse anti-Alpha Tubulin [DM1A]) overnight at 4 °C at a 1 in 1000 dilution and a 1 in 20000 dilution respectively. Blots were incubated with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (**ab216773**) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (**ab216776**) secondary antibodies at 1 in 20000 dilution for 1 h at room temperature before imaging.

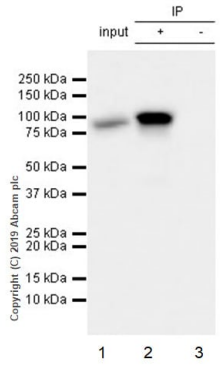



Western blot - Anti-STAT1 alpha antibody [EPYR2154] (ab92506)

Lane 1: Wild type HAP1 whole cell lysate (20 µg)
Lane 2: STAT1 alpha knockout HAP1 whole cell lysate (20 µg)
Lane 3: HeLa whole cell lysate (20 µg)
Lane 4: A431 whole cell lysate (20 µg)

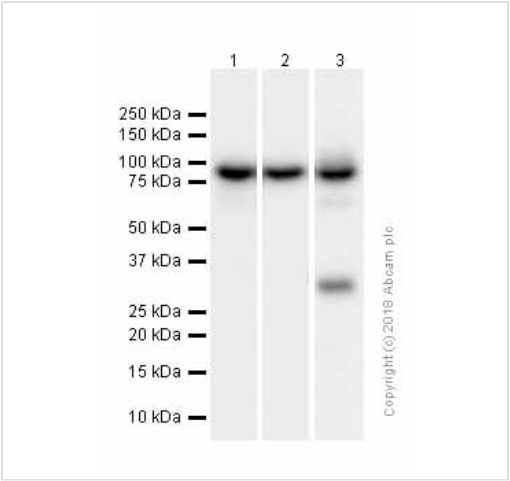
Lanes 1 - 4: Merged signal (red and green). Green - ab92506 (unpurified) observed at 90 kDa. Red - loading control, **ab8245**, observed at 37 kDa.

ab92506 was shown to specifically react with STAT1 alpha when STAT1 alpha knockout samples were used. Wild-type and STAT1 alpha knockout samples were subjected to SDS-PAGE. Ab92506 and **ab8245** (Mouse anti GAPDH loading control) were incubated overnight at 4°C at 1/500 dilution and 1/10000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed **ab216773** and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed **ab216776** secondary antibodies at 1/10000 dilution for 1 hour at room temperature before imaging.




Immunoprecipitation - Anti-STAT1 alpha antibody [EPYR2154] (ab92506)

ab92506 (purified) at 1/20 dilution (0.5ug) immunoprecipitating STAT1 alpha in A431 whole cell lysate. A431 (Human epidermoid carcinoma epithelial cell) whole cell lysate 10ug
Lane 2 (+): ab92506 & A431 whole cell lysate
Lane 3 (-): Rabbit monoclonal IgG (**ab172730**) instead of ab92506 in A431 whole cell lysate
For western blotting, VeriBlot for IP secondary antibody (HRP) (**ab131366**) was used at 1/2000 dilution.
Blocking and diluting buffer: 5% NFDM/TBST.




Western blot - Anti-STAT1 alpha antibody [EPYR2154] (ab92506)

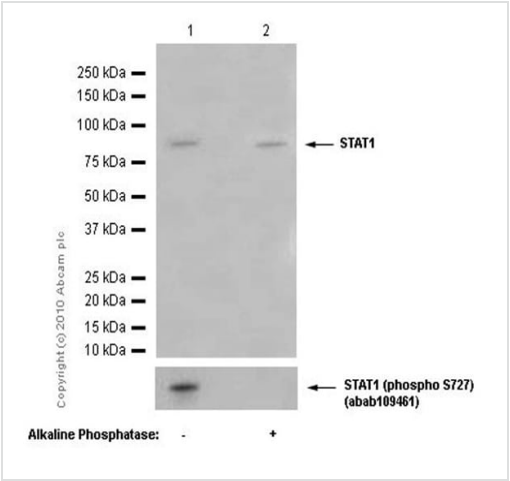
**Lane 1 :** Anti-STAT1 alpha antibody [EPYR2154] (ab92506) at 1/1000 dilution (Purified)
**Lanes 2-3 :** Anti-STAT1 alpha antibody [EPYR2154] (ab92506) at 1/1000 dilution

**Lane 1 :** A431 (Human epidermoid carcinoma epithelial cell) whole cell lysate
**Lane 2 :** Mouse brain lysate
**Lane 3 :** NIH/3T3 (Mouse embryonic fibroblast) whole cell lysates

Lysates/proteins at 20 µg per lane.

**Secondary**
**All lanes :** Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/20000 dilution

**Predicted band size:** 87 kDa
**Observed band size:** 91 kDa




Western blot - Anti-STAT1 alpha antibody [EPYR2154] (ab92506)

**All lanes :** Anti-STAT1 alpha antibody [EPYR2154] (ab92506) at 1/2000 dilution (unpurified)

**Lane 1 :** Untreated HeLa (human cervix adenocarcinoma) membrane
**Lane 2 :** HeLa (human cervix adenocarcinoma) membrane treated with Alkaline Phosphatase

Lysates/proteins at 10 µg per lane.

**Secondary**
**All lanes :** Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1500 dilution

Developed using the ECL technique.

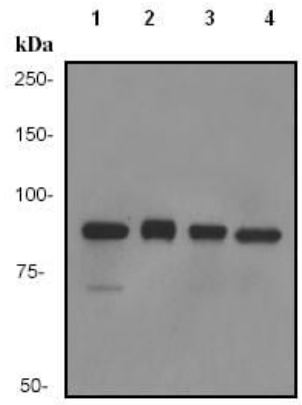
**Predicted band size:** 87 kDa
**Observed band size:** 91 kDa

**Exposure time:** 3 minutes

Phospho STAT1 protein is revealed by **ab109461**, anti-STAT1

(phospho S727) antibody. ab92506 is used as pan control which detects total STAT1.

Blocking and dilution buffer: 5% NFDM/TBST.




Western blot - Anti-STAT1 alpha antibody [EPYR2154] (ab92506)

**All lanes :** Anti-STAT1 alpha antibody [EPYR2154] (ab92506) at 1/1000 dilution (unpurified)

**Lane 1 :** HeLa cell lysate
**Lane 2 :** 293 cell lysate
**Lane 3 :** NIH-3T3 cell lysate
**Lane 4 :** A431 cell lysate

Lysates/proteins at 10 µg per lane.

**Secondary**
**All lanes :** HRP labelled goat anti-rabbit IgG at 1/2000 dilution

**Predicted band size:** 87 kDa
**Observed band size:** 91 kDa


Anti-STAT1 alpha antibody [EPYR2154] (ab92506)



## 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.cn/abpromise** or contact our technical team.

### Terms and conditions

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