abcam

Product datasheet

Anti-STAT1 (phospho Y701) antibody ab30645

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概述

产品名称	Anti-STAT1 (phospho Y701)**抗体**
描述	**兔多克隆抗体**to STAT1 (phospho Y701)
宿主	Rabbit
经测试应用	**适用于:** IHC-P, WB, ICC/IF
种属反应性	**与反应:** Human
免疫原	Synthetic phosphopeptide derived from human STAT1 around the phosphorylation site of Tyrosine 701.
常规说明	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. 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

性能

形式	Liquid
存放说明	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
存储溶液	pH: 7 Preservative: 0.02% Sodium azide Constituents: PBS, 50% Glycerol, 0.87% Sodium chloride Without Mg2+ and Ca2+
纯度	Immunogen affinity purified
纯化说明	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific phosphopeptide. The antibody against non-phosphopeptide was removed by chromatography using non-phosphopeptide corresponding to the phosphorylation site.
克隆	**多克隆**
同种型	IgG

应用

The Abpromise guarantee **Abpromise™承诺保证使用ab30645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
IHC-P	★★★★☆ (1)	Use at an assay dependent concentration.
WB	★☆☆☆☆ (2)	1/500 - 1/1000. Detects a band of approximately 87 kDa (predicted molecular weight: 87 kDa).
ICC/IF	★★★★☆ (1)	Use a concentration of 1 - 5 µg/ml.

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

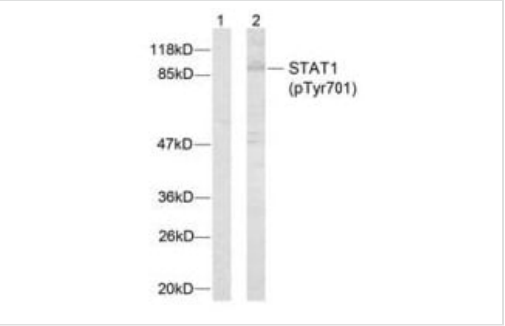
Belongs to the transcription factor STAT family.
Contains 1 SH2 domain.

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



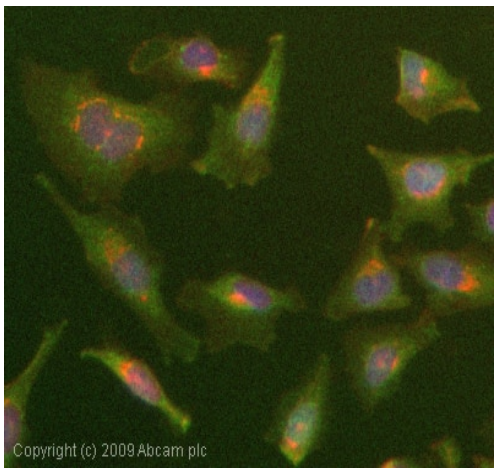
Western blot - Anti-STAT1 (phospho Y701) antibody (ab30645)

All lanes : Anti-STAT1 (phospho Y701) antibody (ab30645)

Lane 1 : Untreated MCF7 lysate (5-30ug).
Lane 2 : EGF treated MCF7 lysate (5-30ug).

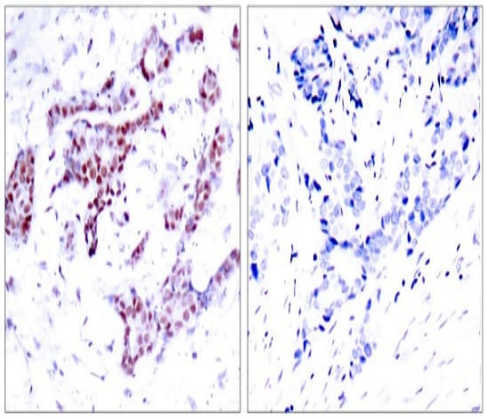
Predicted band size: 87 kDa
Observed band size: 87 kDa
Additional bands at: 47 kDa. We are unsure as to the identity of these extra bands.

Suggested dilution: 1:500 - 1:1000



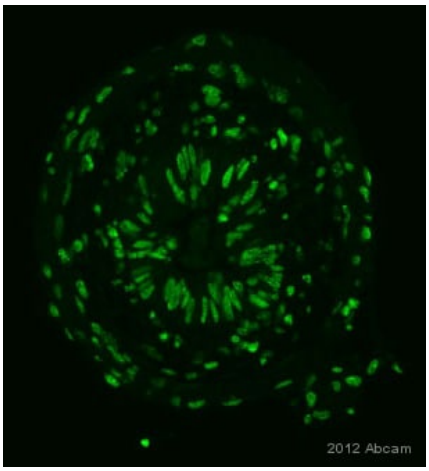
Immunocytochemistry/ Immunofluorescence - Anti-STAT1 (phospho Y701) antibody (ab30645)

ICC/IF image of ab30645 stained HeLa cells. The cells were 4% PFA 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 (ab30645, 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.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-STAT1 (phospho Y701) antibody (ab30645)

Paraffin-embedded human breast carcinoma tissue stained for STAT1 (phospho Y701) using ab30645 at 1/590 dilution in immunohistochemical analysis. Tissue was incubated in the absence (left) or presence (right) of immunizing phospho-peptide.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-STAT1 (phospho Y701) antibody (ab30645)
This image is courtesy of an anonymous Abreview

ab30645 staining STAT1 (phospho Y701) in murine intestine tissue by Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections).

Tissue was fixed with paraformaldehyde and blocked with 5% serum for 1 hour at 23°C; antigen retrieval was by heat mediation with a citrate buffer. Samples were incubated with primary antibody (1/400 in Tris Buffer Saline) for 16 hours at 4°C. An AlexaFluor®488-conjugated goat anti-rabbit polyclonal IgG (1/200) was used as the secondary antibody.

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