

Anti-STAT1 antibody [SM1] ab3987

★★★★★ **3 Abreviews** **24 References** **3 图像**

概述

产品名称	Anti-STAT1抗体[SM1]
描述	小鼠单克隆抗体[SM1] to STAT1
宿主	Mouse
特异性	The antibody recognizes an epitope included within amino acids 721-733 of the 91 kDa STAT 1 protein.
经测试应用	适用于: WB, Flow Cyt
种属反应性	与反应: Human
免疫原	Synthetic peptide: DNLLPMSPEEFDE , corresponding to amino acids 721-733 of STAT 1. Run BLAST with Run BLAST with
阳性对照	WB: HeLa, MCF-7. Cos-7 cell lysates. Flow Cyt: HeLa cells.
常规说明	<p>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.</p> <p>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</p>

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 or -80°C. Avoid freeze / thaw cycle.
存储溶液	pH: 7.40 Preservative: 0.097% Sodium azide Constituent: PBS
纯度	Protein A purified
纯化说明	Purified from hybridoma culture supernatant. Purity >95% by SDS-PAGE.

克隆	单克隆
克隆编号	SM1
同种型	IgG2b

应用

The Abpromise guarantee **Abpromise™**承诺保证使用ab3987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)	Use a concentration of 1 - 2 µg/ml. Detects a band of approximately 91 kDa (predicted molecular weight: 87 kDa).
Flow Cyt	★☆☆☆☆ (1)	Use 1µg for 10 ⁶ cells. ab170192 - Mouse monoclonal IgG2b, is suitable for use as an isotype control with this antibody.

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.

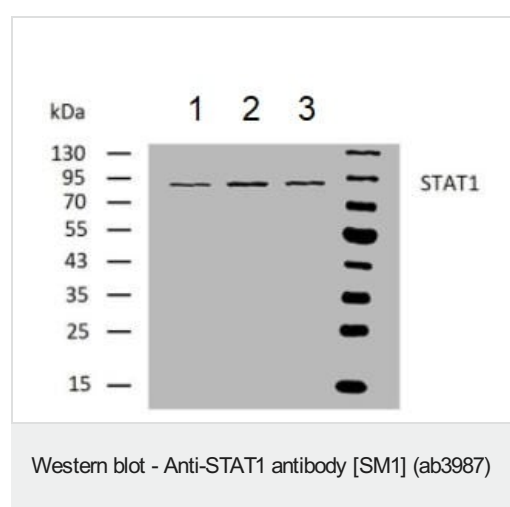
Sumoylated by SUMO1, SUMO2 and SUMO3. Sumoylation is enhanced by IFN-gamma-induced phosphorylation on Ser-727, and by interaction with PIAS proteins. Enhances the transactivation activity.

ISGylated.

细胞定位

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

图片



All lanes : Anti-STAT1 antibody [SM1] (ab3987) at 2 µg/ml

Lane 1 : HeLa cell lysate (reducing conditions)

Lane 2 : MCF-7 cell lysate (reducing conditions)

Lane 3 : Cos-7 cell lysate (reducing conditions)

Secondary

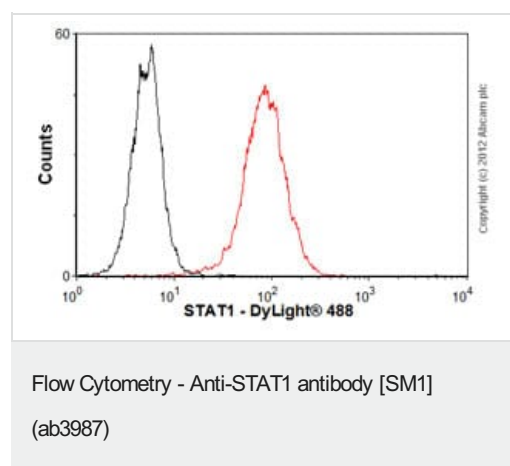
All lanes : IRDye800-conjugated anti-mouse

Predicted band size: 87 kDa

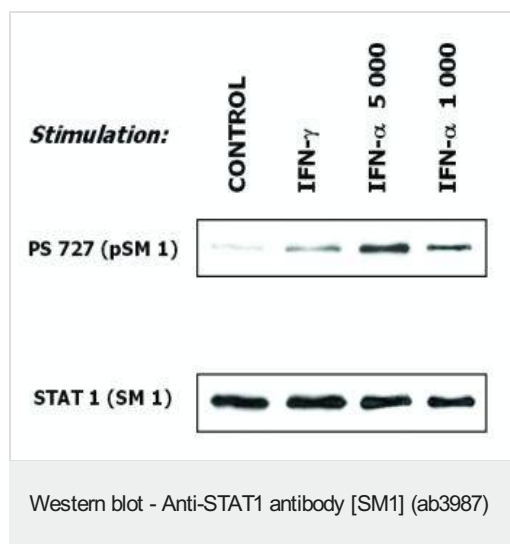
Observed band size: 90 kDa

Western blotting analysis of STAT1 using ab3987 on lysates of HeLa, MCF-7, and Cos-7 cell lines under reducing conditions.

Nitrocellulose membrane was probed with 2 µg/ml of ab3987 followed by IRDye800-conjugated anti-mouse secondary antibody.



Overlay histogram showing HeLa cells stained with ab3987 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab3987, 1µg/1x10⁶ cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) ([ab96879](#)) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG2b [PLPV219] ([ab91366](#), 2µg/1x10⁶ cells) used under the same conditions. Acquisition of >5,000 events was performed.



Induction of phosphorylation of STAT 1 at Ser727 in human malignant melanoma cells (short-term culture derived from a patient) in response to interferons. Subconfluent cells were serum-starved before exposure to activation dosages of IFN-gamma (10 ng/ml) and IFN-alpha (1000 IU/ml and 5000 IU/ml). Western blotting analysis of cell extracts shows detection of phosphorylated STAT-1 (Ser727) by the antibody PSM1 (upper panel) and total STAT 1 level by the antibody SM1 (lower panel).

Induction of phosphorylation of STAT 1 at Ser727 in human malignant melanoma cells (short-term culture derived from a patient) in response to interferons. Subconfluent cells were serum-starved before exposure to activation dosages of IFN-gamma (10 ng/ml) and IFN-alpha (1000 IU/ml and 5000 IU/ml). Western blotting analysis of cell extracts shows detection of phosphorylated STAT-1 (Ser727)

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