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Product datasheet

Anti-STAT1 antibody [SM1] ab3987

3 Abreviews 24 References 画像数 3

製品の概要

製品名	Anti-STAT1 antibody [SM1]
製品の詳細	Mouse monoclonal [SM1] to STAT1
由来種	Mouse
特異性	The antibody recognizes an epitope included within amino acids 721-733 of the 91 kDa STAT 1 protein.
アプリケーション	**適用あり:** WB, Flow Cyt
種交差性	**交差種:** Human
免疫原	Synthetic peptide: DNLLPMSPEEFDE , corresponding to amino acids 721-733 of STAT 1. Run BLAST with Run BLAST with
ポジティブ・コントロール	WB: HeLa, MCF-7. Cos-7 cell lysates. Flow Cyt: HeLa cells.
特記事項	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

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 or -80°C. Avoid freeze / thaw cycle.
バッファー	pH: 7.40 Preservative: 0.097% Sodium azide Constituent: PBS
精製度	Protein A purified
特記事項（精製）	Purified from hybridoma culture supernatant. Purity >95% by SDS-PAGE.

ポリ/モノ	モノクローナル
クローン名	SM1
アイソタイプ	IgG2b

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ab3987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
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.

ターゲット情報

機能

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.

関連疾患

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.

配列類似性

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

翻訳後修飾

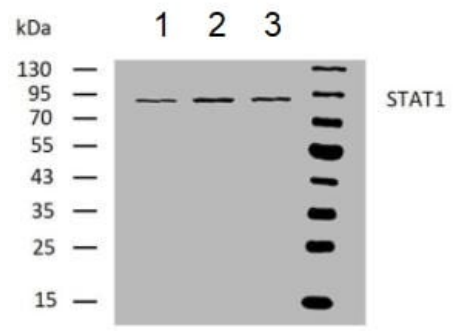
Phosphorylated on tyrosine and serine residues in response to IFN-alpha, IFN-gamma, PDGF and EGF. Phosphorylation on Tyr-701 (lacking in beta form) by JAK promotes dimerization and

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.

細胞内局在

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

画像



Western blot - Anti-STAT1 antibody [SM1] (ab3987)

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

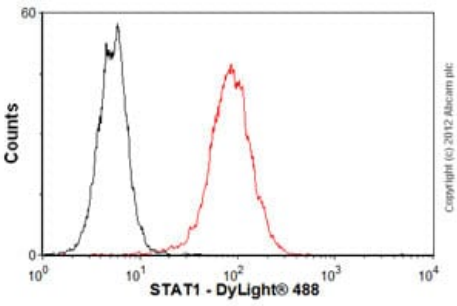
Lane 1 : HeLa cell lysate (reducing conditions)
Lane 2 : MCF-7 cell lysate (reducing conditions)
Lane 3 : Cos-7 cell lysate (reducing conditions)

Secondary
All lanes : IRDye800-conjugated anti-mouse

Predicted band size: 87 kDa
Observed band size: 90 kDa

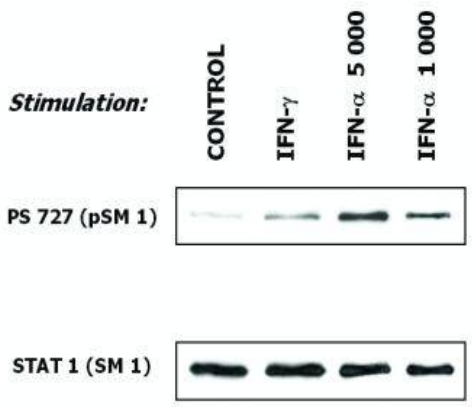
Western blotting analysis of STAT1 using ab3987 on lysates of HeLa, MCF-7, and Cos-7 cell lines under reducing conditions.

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



Flow Cytometry - Anti-STAT1 antibody [SM1] (ab3987)

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/1x10^6 cells) for 30 min at 22ºC. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (**ab96879**) at 1/500 dilution for 30 min at 22ºC. Isotype control antibody (black line) was mouse IgG2b [PLPV219] (**ab91366**, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.



Western blot - Anti-STAT1 antibody [SM1] (ab3987)

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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