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STAT1 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP19835b

Product Information

Application	IHC-P, IF, WB, FC, IHC-P-Leica
Primary Accession	P42224
Other Accession	NP_009330.1
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit Ig
Calculated MW	87335

Additional Information

Gene ID	6772
Other Names	Signal transducer and activator of transcription 1-alpha/beta, Transcription factor ISGF-3 components p91/p84, STAT1
Target/Specificity	This STAT1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 717-745 amino acids from the C-terminal region of human STAT1.
Dilution	IF~~1:25 IHC-P-Leica~~1:1000 FC~~1:25 WB~~1:1000
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	STAT1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	STAT1

Function	Signal transducer and transcription activator that mediates cellular responses to interferons (IFNs), cytokine KITLG/SCF and other cytokines and other growth factors. Following type I IFN (IFN-alpha and IFN-beta) binding to cell surface receptors, signaling via protein kinases leads to activation of Jak kinases (TYK2 and JAK1) and to tyrosine phosphorylation of STAT1 and STAT2. The phosphorylated STATs dimerize and associate with ISGF3G/IRF-9 to form a complex termed ISGF3 transcription factor, that enters the nucleus (PubMed:28753426). ISGF3 binds to the IFN stimulated response element (ISRE) to activate the transcription of IFN-stimulated genes (ISG), which drive the cell in an antiviral state. In response to type II IFN (IFN-gamma), STAT1 is tyrosine- and serine-phosphorylated (PubMed:26479788). 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. Becomes activated in response to KITLG/SCF and KIT signaling. May mediate cellular responses to activated FGFR1, FGFR2, FGFR3 and FGFR4.
Cellular Location	Cytoplasm. Nucleus Note=Translocated into the nucleus upon tyrosine phosphorylation and dimerization, in response to IFN-gamma and signaling by activated FGFR1, FGFR2, FGFR3 or FGFR4 (PubMed:15322115). Monomethylation at Lys- 525 is required for phosphorylation at Tyr-701 and translocation into the nucleus (PubMed:28753426). Translocates into the nucleus in response to interferon-beta stimulation (PubMed:26479788)

Background

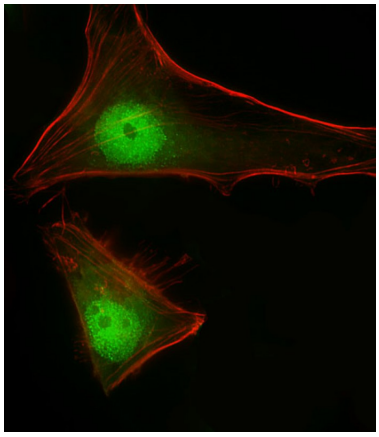
The protein encoded by this gene is a member of the STAT protein family. In response to cytokines and growth factors, STAT family members are phosphorylated by the receptor associated kinases, and then form homo- or heterodimers that translocate to the cell nucleus where they act as transcription activators. This protein can be activated by various ligands including interferon-alpha, interferon-gamma, EGF, PDGF and IL6. This protein mediates the expression of a variety of genes, which is thought to be important for cell viability in response to different cell stimuli and pathogens. Two alternatively spliced transcript variants encoding distinct isoforms have been described. [provided by RefSeq].

References

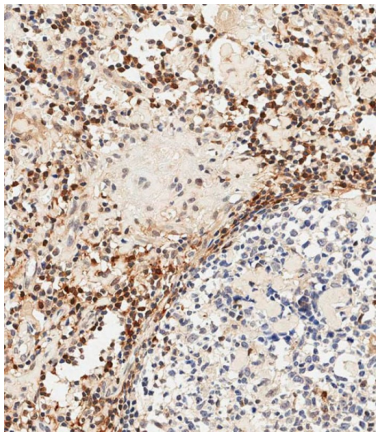
Clarke, D.L., et al. J. Biol. Chem. 285(38):29101-29110(2010)
Rosas-Murrieta, N.H., et al. Virol. J. 7, 263 (2010) :
DeVries, T.A., et al. J. Biol. Chem. 279(44):45603-45612(2004)
Zhang, Y., et al. Carcinogenesis 25(7):1165-1175(2004)
Sakamoto, S., et al. J. Biol. Chem. 279(5):3245-3253(2004)

Images

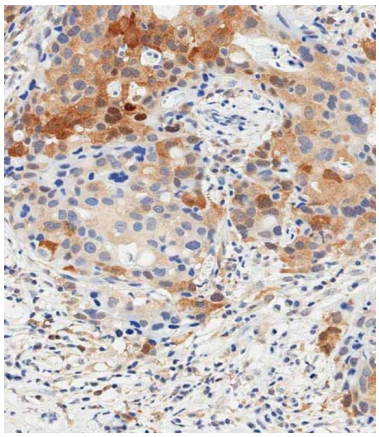
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0. 1% Triton X-100 permeabilized Hela cells labeling STAT1 with AP19835b at 1/25 dilution, followed by Dylight® 488-conjugated goat anti-Rabbit IgG secondary



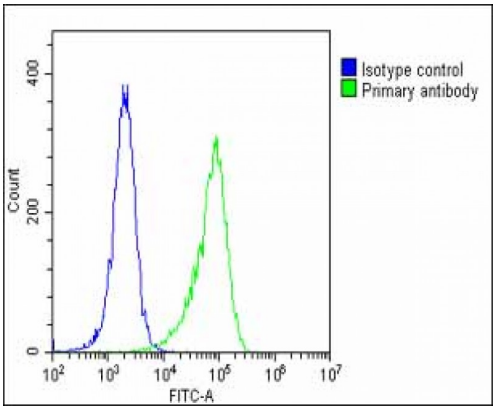
antibody at 1/200 dilution (green). Immunofluorescence image showing Nucleus and Weak Cytoplasm staining on Hela cell line. Cytoplasmic actin is detected with Dylight® 554 Phalloidin(red). The nuclear counter stain is DAPI (blue).



Immunohistochemical analysis of paraffin-embedded human lymph node tissue using AP19835b performed on the Leica® BOND RXm. Samples were incubated with primary antibody(1/500) for 1 hours at room temperature. A undiluted biotinylated CRF Anti-Polyvalent HRP Polymer antibody was used as the secondary antibody.

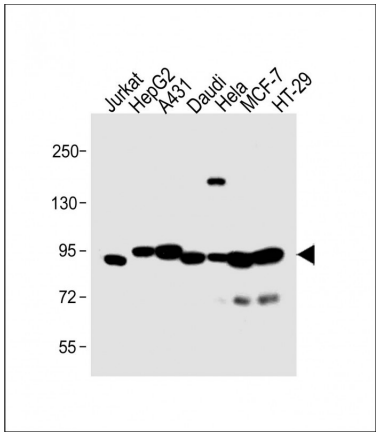


Immunohistochemical analysis of paraffin-embedded human breast carcinoma tissue using AP19835b performed on the Leica® BOND RXm. Tissue was fixed with formaldehyde at room temperature; antigen retrieval was by heat mediation with a EDTA buffer (pH9. 0). Samples were incubated with primary antibody(1:1000) for 1 hours at room temperature. A undiluted biotinylated CRF Anti-Polyvalent HRP Polymer antibody was used as the secondary antibody.



Overlay histogram showing Hela cells stained with AP19835b(green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then icubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AP19835b, 1:25 dilution) for 60 min at 37ºC. The secondary antibody used was Goat-Anti-Rabbit IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed(1583138) at 1/200 dilution for 40 min at 37ºC. Isotype control antibody (blue line) was rabbit IgG1 (1µg/1x10^6 cells) used under the same conditions. Acquisition of >10, 000 events was performed.

All lanes : Anti-STAT1 Antibody (C-term) at 1:1000



dilution Lane 1: Jurkat whole cell lysate Lane 2: HepG2 whole cell lysate Lane 3: A431 whole cell lysate Lane 4: Daudi whole cell lysate Lane 5: Hela whole cell lysate Lane 5: MCF-7 whole cell lysate Lane 5: HT-29 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 87 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Citations

- Enhancing NK cell-mediated cytotoxicity to cisplatin-resistant lung cancer cells via MEK/Erk signaling inhibition.
- Radiation alters PD-L1/NKG2D ligand levels in lung cancer cells and leads to immune escape from NK cell cytotoxicity via IL-6-MEK/Erk signaling pathway.