

Anti-STAT3 (pS727) Antibody

Rabbit polyclonal antibody to STAT3 (pS727)

Catalog # AP59709

Product Information

Application	WB, IP, IF/IC, IHC
Primary Accession	P40763
Other Accession	P42227
Reactivity	Human, Mouse, Rat, Monkey, Pig, Chicken, Bovine, Drosophila
Host	Rabbit
Clonality	Polyclonal
Calculated MW	88068

Additional Information

Gene ID	6774
Other Names	APRF; Signal transducer and activator of transcription 3; Acute-phase response factor
Target/Specificity	Recognizes endogenous levels of STAT3 (pS727) protein.
Dilution	WB~~WB (1/500 - 1/1000), IHC (1/50 - 1/200), IF/IC (1/50 - 1/500), IP (1/10 - 1/100) IP~~N/A IF/IC~~N/A IHC~~WB (1/500 - 1/1000), IHC (1/50 - 1/200), IF/IC (1/50 - 1/500), IP (1/10 - 1/100)
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.09% (W/V) sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

Name	STAT3 {ECO:0000303 PubMed:9630560, ECO:0000312 HGNC:HGNC:11364}
Function	Signal transducer and transcription activator that mediates cellular responses to interleukins, KITLG/SCF, LEP and other growth factors (PubMed: 10688651 , PubMed: 12359225 , PubMed: 12873986 , PubMed: 15194700 , PubMed: 15653507 , PubMed: 16285960 , PubMed: 17344214 , PubMed: 18242580 , PubMed: 18782771 , PubMed: 22306293 , PubMed: 23084476 , PubMed: 28262505 , PubMed: 32929201 , PubMed: 38404237). Once activated, recruits coactivators, such as NCOA1 or MED1, to the promoter region of the target gene (PubMed: 15653507 , PubMed: 16285960 , PubMed: 17344214 , PubMed: 18782771 , PubMed: 28262505 , PubMed: 32929201). May mediate cellular responses to activated FGFR1, FGFR2, FGFR3 and FGFR4 (PubMed: 12873986). Upon activation of IL6ST/gp130 signaling by

interleukin-6 (IL6), binds to the IL6-responsive elements identified in the promoters of various acute-phase protein genes (PubMed:[12359225](#)). Activated by IL31 through IL31RA (PubMed:[15194700](#)). Acts as a regulator of inflammatory response by regulating differentiation of naive CD4(+) T-cells into T-helper Th17 or regulatory T-cells (Treg): acetylation promotes its transcription activity and cell differentiation while deacetylation and oxidation of lysine residues by LOXL3 inhibits differentiation (PubMed:[28065600](#), PubMed:[28262505](#)). Involved in cell cycle regulation by inducing the expression of key genes for the progression from G1 to S phase, such as CCND1 (PubMed:[17344214](#)). Mediates the effects of LEP on melanocortin production, body energy homeostasis and lactation (By similarity). May play an apoptotic role by transactivating BIRC5 expression under LEP activation (PubMed:[18242580](#)). Cytoplasmic STAT3 represses macroautophagy by inhibiting EIF2AK2/PKR activity (PubMed:[23084476](#)). Plays a crucial role in basal beta cell functions, such as regulation of insulin secretion (By similarity). Following JAK/STAT signaling activation and as part of a complex with NFATC3 and NFATC4, binds to the alpha-beta E4 promoter region of CRYAB and activates transcription in cardiomyocytes (By similarity).

Cellular Location

Cytoplasm. Nucleus Note=Shuttles between the nucleus and the cytoplasm (PubMed:[29162862](#)) Translocated into the nucleus upon tyrosine phosphorylation and dimerization, in response to signaling by activated FGFR1, FGFR2, FGFR3 or FGFR4 (PubMed:[15653507](#), PubMed:[16285960](#)). Constitutive nuclear presence is independent of tyrosine phosphorylation. Predominantly present in the cytoplasm without stimuli. Upon leukemia inhibitory factor (LIF) stimulation, accumulates in the nucleus. The complex composed of BART and ARL2 plays an important role in the nuclear translocation and retention of STAT3. Identified in a complex with LYN and PAG1. Translocates to the nucleus in the presence of EDN1 (By similarity). {ECO:0000250|UniProtKB:P52631, ECO:0000269|PubMed:[15653507](#), ECO:0000269|PubMed:[16285960](#), ECO:0000269|PubMed:[29162862](#)}

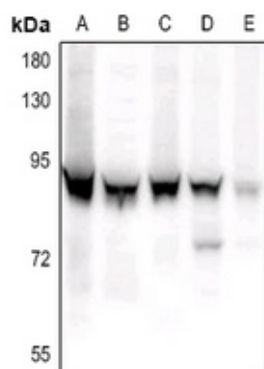
Tissue Location

Heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas. Expressed in naive CD4(+) T cells as well as T-helper Th17, Th1 and Th2 cells (PubMed:[31899195](#))

Background

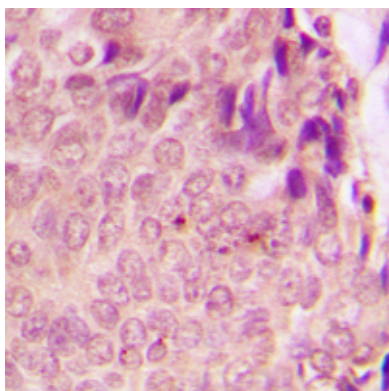
KLH-conjugated synthetic peptide encompassing a sequence within the C-term region of human STAT3. The exact sequence is proprietary.

Images

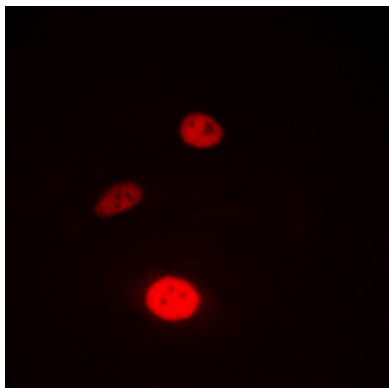


Western blot analysis of STAT3 (pS727) expression in HepG2 (A), A549 (B), LO2 (C), PC12 (D), 3T3L1 (E) whole cell lysates.

Immunohistochemical analysis of STAT3 (pS727) staining in human breast cancer formalin fixed paraffin



embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



Immunofluorescent analysis of STAT3 (pS727) staining in Hela cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a humidified chamber. Cells were washed with PBST and incubated with a DyLight 594-conjugated secondary antibody (red) in PBS at room temperature in the dark.

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