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STAT3

Mouse Monoclonal antibody(Mab)
Catalog # AD80428

Product Information

Application	IHC-P
Primary Accession	P40763
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	356C4A5
Calculated MW	88068

Additional Information

Gene ID	6774
Other Names	Signal transducer and activator of transcription 3 {ECO:0000312|HGNC:HGNC:11364}, Acute-phase response factor, STAT3 (HGNC:11364)
Dilution	IHC-P~~N/A
Storage	Maintain refrigerated at 2-8°C.

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:11294841, 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). Involved in the oncostatin-M-mediated signaling pathway through both type I OSM receptor complex (heterodimers composed of LIFR and IL6ST) and type II OSM receptor complex (heterodimers composed of OSMR and IL6ST) (PubMed:9188471).
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)

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