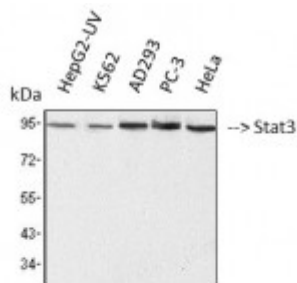


## Anti-Stat3 antibody



Western Blot (WB) analysis of 1)HepG2-UV, 2)K562, 3)AD293, 4)PC-3, 5)HeLa cell lysates using Stat3 antibody (STJ95808).



### Description

Stat3 is a protein encoded by the STAT3 gene which is approximately 88 kDa. Stat3 is localised to the cytoplasm and nucleus. It is involved in the immune response IL-23 signalling pathway, RET signalling, Th17 cell differentiation and prolactin signalling pathway. This protein falls under the STAT protein family. In response to cytokines and growth factors, STAT family members are phosphorylated by receptor associated kinases, and then form homo- or heterodimers that translocate to the cell nucleus where they act as transcription activators. This protein is activated through phosphorylation in response to various cytokines and growth factors including IFNs, EGF, IL5, IL6, HGF, LIF and BMP2. Stat3 is expressed in the heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas. Mutations in the STAT3 gene may result in Hyperimmunoglobulin E recurrent infection syndrome. STJ95808 was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen. This polyclonal antibody detects endogenous levels of Stat3 protein.

<b>Model</b>	STJ95808
<b>Host</b>	Rabbit
<b>Reactivity</b>	Human, Mouse, Rat
<b>Applications</b>	ELISA, IHC, WB
<b>Immunogen</b>	Synthesized peptide derived from human Stat3 around the non-phosphorylation site of Y705.
<b>Immunogen Region</b>	640-720 aa
<b>Gene ID</b>	<a href="#">6774</a>
<b>Gene Symbol</b>	<a href="#">STAT3</a>

<b>Dilution range</b>	WB 1:500-1:2000IHC 1:100-1:300ELISA 1:5000
<b>Specificity</b>	Stat3 Polyclonal Antibody detects endogenous levels of Stat3 protein.
<b>Tissue Specificity</b>	Heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas.
<b>Purification</b>	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
<b>Note</b>	For Research Use Only (RUO).
<b>Protein Name</b>	Signal transducer and activator of transcription 3 Acute-phase response factor
<b>Molecular Weight</b>	88 kDa
<b>Clonality</b>	Polyclonal
<b>Conjugation</b>	Unconjugated
<b>Isotype</b>	IgG
<b>Formulation</b>	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
<b>Concentration</b>	1 mg/ml
<b>Storage Instruction</b>	Store at -20°C, and avoid repeat freeze-thaw cycles.
<b>Database Links</b>	<a href="#">HGNC:11364</a> <a href="#">OMIM:102582</a>
<b>Alternative Names</b>	Signal transducer and activator of transcription 3 Acute-phase response factor
<b>Function</b>	Signal transducer and transcription activator that mediates cellular responses to interleukins, KITLG/SCF, LEP and other growth factors . Once activated, recruits coactivators, such as NCOA1 or MED1, to the promoter region of the target gene . May mediate cellular responses to activated FGFR1, FGFR2, FGFR3 and FGFR4 . Binds to the interleukin-6 (IL-6)-responsive elements identified in the promoters of various acute-phase protein genes . Activated by IL31 through IL31RA . Acts as a regulator of inflammatory response by regulating differentiation of naive CD4(+) T-cells into T-helper Th17 or regulatory T-cells (Treg): deacetylation and oxidation of lysine residues by LOXL3, leads to disrupt STAT3 dimerization and inhibit its transcription activity . Involved in cell cycle regulation by inducing the expression of key genes for the progression from G1 to S phase, such as CCND1 . Mediates the effects of LEP on melanocortin production, body energy homeostasis and lactation . May play an apoptotic role by transactivating BIRC5 expression under LEP activation . Cytoplasmic STAT3 represses macroautophagy by inhibiting EIF2AK2/PKR activity . Plays a crucial role in basal beta cell functions, such as regulation of insulin secretion .
<b>Cellular Localization</b>	Cytoplasm. Nucleus. Shuttles between the nucleus and the cytoplasm. Translocated into the nucleus upon tyrosine phosphorylation and dimerization, in response to signaling by activated FGFR1, FGFR2, FGFR3 or FGFR4. 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.
<b>Post-translational</b>	Tyrosine phosphorylated upon stimulation with EGF. Tyrosine

## Modifications

phosphorylated in response to constitutively activated FGFR1, FGFR2, FGFR3 and FGFR4 . Activated through tyrosine phosphorylation by BMX. Tyrosine phosphorylated in response to IL6, IL11, LIF, CNTF, KITLG/SCF, CSF1, EGF, PDGF, IFN-alpha, LEP and OSM. Activated KIT promotes phosphorylation on tyrosine residues and subsequent translocation to the nucleus. Phosphorylated on serine upon DNA damage, probably by ATM or ATR. Serine phosphorylation is important for the formation of stable DNA-binding STAT3 homodimers and maximal transcriptional activity. ARL2BP may participate in keeping the phosphorylated state of STAT3 within the nucleus. Upon LPS challenge, phosphorylated within the nucleus by IRAK1. Upon erythropoietin treatment, phosphorylated on Ser-727 by RPS6KA5. Phosphorylation at Tyr-705 by PTK6 or FER leads to an increase of its transcriptional activity. Dephosphorylation on tyrosine residues by PTPN2 negatively regulates IL6/interleukin-6 signaling. Acetylated on lysine residues by CREBBP. Deacetylation by LOXL3 leads to disrupt STAT3 dimerization and inhibit STAT3 transcription activity . Oxidation of lysine residues to allysine on STAT3 preferentially takes place on lysine residues that are acetylated . Some lysine residues are oxidized to allysine by LOXL3, leading to disrupt STAT3 dimerization and inhibit STAT3 transcription activity . Oxidation of lysine residues to allysine on STAT3 preferentially takes place on lysine residues that are acetylated .