

Anti-STAT3 Antibody
Catalog # ABO10569**Specification**

Anti-STAT3 Antibody - Product Information

Application	WB, IHC
Primary Accession	P40763
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

Description

Rabbit IgG polyclonal antibody for Signal transducer and activator of transcription 3(STAT3) detection. Tested with WB, IHC-P, ICC in Human;Mouse;Rat.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-STAT3 Antibody - Additional Information

Gene ID 6774

Other Names

Signal transducer and activator of transcription 3 {ECO:0000312|HGNC:HGNC:11364},
Acute-phase response factor, STAT3 (http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=11364)
HGNC:11364

Calculated MW

88068 MW KDa

Application Details

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Rat, Mouse, By
Heat
Immunocytochemistry , 0.5-1 µg/ml, Human, Rat, Mouse
Western blot, 0.1-0.5
µg/ml, Human, Rat, Mouse

Subcellular Localization

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.

Tissue Specificity

Heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas.

Protein Name

Signal transducer and activator of transcription 3

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Thimerosal, 0.05mg NaN₃.

Immunogen

A synthetic peptide corresponding to a sequence at the C-terminus of human STAT3(686-698aa YCRPESQEHPEAD), identical to the related rat and mouse sequences.

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins

Storage

At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.

Sequence Similarities

Belongs to the transcription factor STAT family.

Anti-STAT3 Antibody - 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](http://www.uniprot.org/citations/10688651), PubMed: [12359225](http://www.uniprot.org/citations/12359225), PubMed: [12873986](http://www.uniprot.org/citations/12873986), PubMed: [15194700](http://www.uniprot.org/citations/15194700), PubMed: [16285960](http://www.uniprot.org/citations/16285960), PubMed: [15653507](http://www.uniprot.org/citations/15653507), PubMed: [17344214](http://www.uniprot.org/citations/17344214), PubMed: [18242580](http://www.uniprot.org/citations/18242580), PubMed: [18782771](http://www.uniprot.org/citations/18782771), PubMed: [22306293](http://www.uniprot.org/citations/22306293), PubMed: [23084476](http://www.uniprot.org/citations/23084476), PubMed: [32929201](http://www.uniprot.org/citations/32929201), PubMed: [28262505](http://www.uniprot.org/citations/28262505)). Once activated, recruits coactivators, such as NCOA1 or MED1, to the promoter region of the target gene (PubMed: [16285960](http://www.uniprot.org/citations/16285960), PubMed: [15653507](http://www.uniprot.org/citations/15653507), PubMed: [17344214](http://www.uniprot.org/citations/17344214), PubMed: [18782771](http://www.uniprot.org/citations/18782771), PubMed: [28262505](http://www.uniprot.org/citations/28262505), PubMed: [32929201](http://www.uniprot.org/citations/32929201)). May mediate cellular responses to activated FGFR1, FGFR2, FGFR3 and FGFR4 (PubMed: [12873986](http://www.uniprot.org/citations/12873986), PubMed: [12873986](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/12359225))

target="_blank">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:28262505, PubMed:28065600). 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. Translocated into the nucleus upon tyrosine phosphorylation and dimerization, in response to signaling by activated FGFR1, FGFR2, FGFR3 or FGFR4 (PubMed:16285960, PubMed:15653507). 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}

Tissue Location

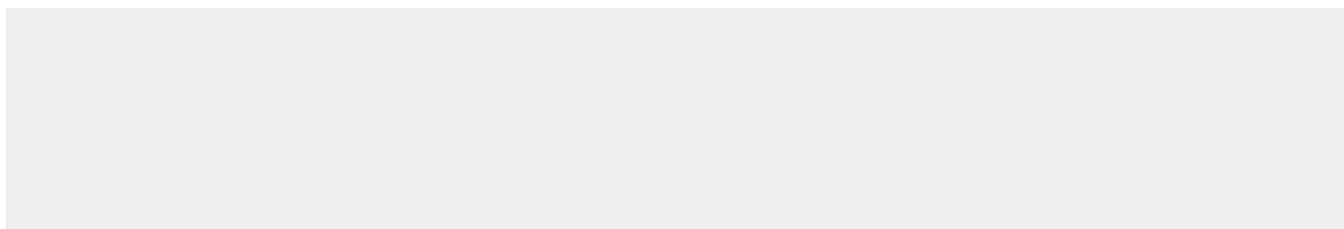
Heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas. Expressed in naive CD4(+) T cells as well as T-helper Th17, Th1 and Th2 cells (PubMed:31899195)

Anti-STAT3 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

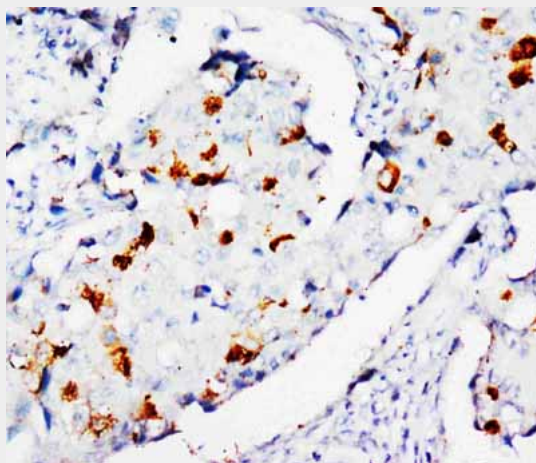
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-STAT3 Antibody - Images





Anti-STAT3 antibody, ABO10569, Western blottingWB: Rat Brain Tissue Lysate



Anti-STAT3 antibody, ABO10569, IHC(P)IHC(P): Human Mammary Cancer Tissue

Anti-STAT3 Antibody - Background

The transcription factor, signal transducer and activator of transcription-3(STAT-3) is the most pleiotropic member of the signal transducer and activator of transcription(STAT) family of transcription factors and mediates pivotal responses for the cytokine family. The mouse STAT3 gene contains 24 exons and spans 30 kb. The translation initiation codon is in exon 2, and the stop codon is in exon 24. STAT3 is mapped to 17q21, it contributes to various physiological processes. Hepatic STAT-3 signaling is thus essential for normal glucose homeostasis and may provide new therapeutic targets for diabetes mellitus.