

Anti-STAT3 Picoband Antibody
Catalog # ABO10003**Specification**

Anti-STAT3 Picoband Antibody - Product Information

Application	WB
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 in Human;Mouse;Rat.

Reconstitution

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

Anti-STAT3 Picoband 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 (<a
href="http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=11364"
target="_blank">HGNC:11364)

Calculated MW

88068 MW KDa

Application Details

Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat

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 Na₃N.

Immunogen

E.coli-derived human STAT3 recombinant protein (Position: A2-R215). Human STAT3 shares 100% amino acid (aa) sequence identity with both mouse and rat STAT3.

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.

Anti-STAT3 Picoband 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, 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

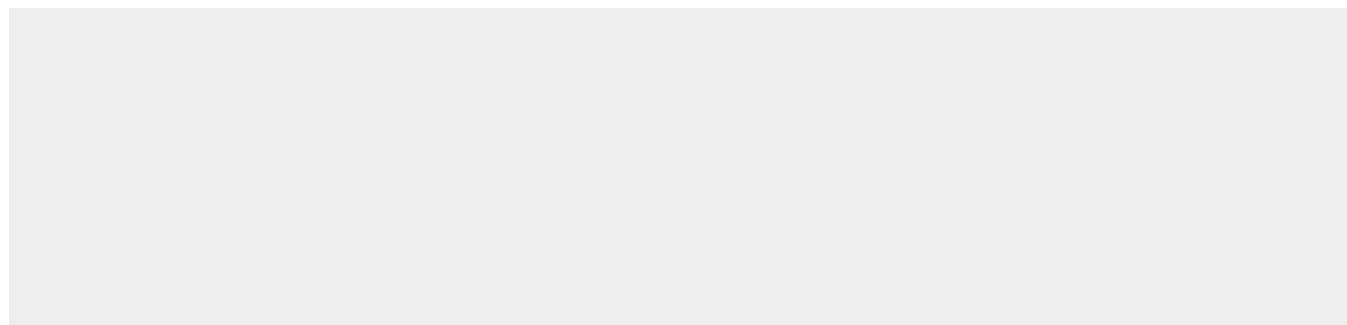
Heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas. Expressed in naive CD4(+) T cells as well as T-helper Th17, Th1 and Th2 cells (PubMed:31899195)

Anti-STAT3 Picoband 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 Picoband Antibody - Images



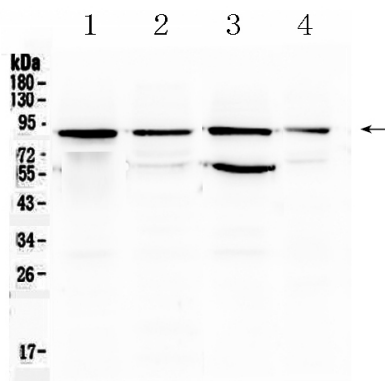


Figure 1. Western blot analysis of STAT3 using anti- STAT3 antibody (ABO10003). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: rat brain tissue lysates, Lane 2: mouse brain tissue lysates, Lane 3: mouse testis tissue lysates, Lane 4: COLO320 whole cell lysates. After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti- STAT3 antigen affinity purified polyclonal antibody (Catalog # ABO10003) at 0.5 μ g/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit with Tanon 5200 system. A specific band was detected for STAT3 at approximately 88KD. The expected band size for STAT3 is at 88KD.

Anti-STAT3 Picoband Antibody - Background

Signal transducer and activator of transcription 3 (STAT3) is a transcription factor which in humans is encoded by the STAT3 gene. It 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. 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.