

Anti-STAT3 [Asym-dimethyl Arg31] (RABBIT) Antibody
STAT3 R31-Me2a Antibody
Catalog # ASR5531

Specification

Anti-STAT3 [Asym-dimethyl Arg31] (RABBIT) Antibody - Product Information

Host	Rabbit
Conjugate	Unconjugated
Target Species	Human
Reactivity	Human
Clonality	Polyclonal
Application	WB, E, I, LCI
Application Note	Anti-STAT3 [Asym-dimethyl Arg31] antibody has been tested in Dot Blot and is useful for Western Blot. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately ~88 kDa corresponding to STAT3 protein by Western Blotting in the appropriate cell lysate or extract.
Physical State	Liquid (sterile filtered)
Buffer	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Immunogen	STAT3 [Asym-dimethyl Arg31] affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic monomethylated peptide surrounding Arginine 31 of human STAT.
Stabilizer	30% Glycerol
Preservative	0.05% (w/v) Sodium Azide

Anti-STAT3 [Asym-dimethyl Arg31] (RABBIT) Antibody - Additional Information

Gene ID 6774

Purity

Anti-STAT3 R31-Me2a was affinity purified from monospecific antiserum by immunoaffinity chromatography. This antibody reacts with human STAT3. A BLAST analysis was used to suggest cross-reactivity with Human, mouse, and rat. Cross-reactivity with STAT3 from other sources has not been determined.

Storage Condition

Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

Precautions Note

This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-STAT3 [Asym-dimethyl Arg31] (RABBIT) 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

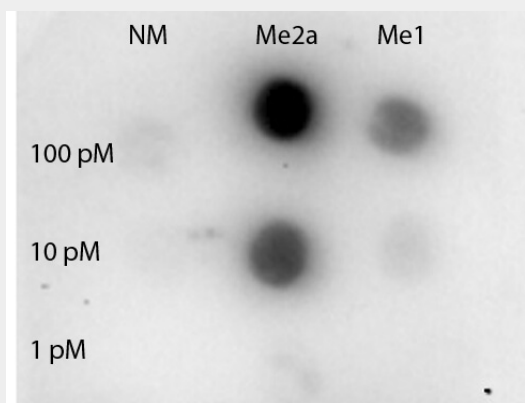
Heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas. Expressed in naive CD4(+) T cells as well as T-helper Th17, Th1 and Th2 cells (PubMed:31899195)

Anti-STAT3 [Asym-dimethyl Arg31] (RABBIT) 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 [Asym-dimethyl Arg31] (RABBIT) Antibody - Images



Dot Blot of Rabbit anti-STAT3 R31-Me2a antibody. Antigen: non-modified, monomethylated and asymmetric dimethylated forms of the STAT3 R31-Me2a immunizing peptide. Load: 100, 10, 1 picomolar as indicated. Primary antibody: STAT3 R31-Me2a antibody at 1:10000 for 60 min at RT. (Date: 12/22/14; Exposure time: 80 seconds.)

Anti-STAT3 [Asym-dimethyl Arg31] (RABBIT) Antibody - Background

Signal transducer and activator of transcription 3 (Stat3) belongs to a family of cytoplasmic transcription factors that can be activated by phosphorylation by its cell surface receptor. Stat3 plays a key role in many cellular processes such as cell growth and apoptosis. It also mediates cellular responses to interleukins, KITLG/SCF, EGF, IFN-alpha and other growth factors and may mediate cellular responses to activated FGFR1, FGFR2, FGFR3 and FGFR4. Stat3 forms a homodimer

or a heterodimer with a related family member (e.g. STAT1). Activation occurs through phosphorylation of tyrosine 705 and serine 727. Phosphorylation of Stat3 at Tyr705 induces Stat3 dimerization and nuclear translocation. Serine phosphorylation is important for stable DNA-binding of Stat3 homodimers and maximal transcriptional activity. Stat3 can have a dual role in cancer, it has been found that Stat3 protein can promote oncogenesis and have a tumor suppressor role depending upon the mutational background of the tumor.