

**Anti-STAT3 pY705 (RABBIT) Antibody**  
**STAT3 phospho Y705 Antibody**  
**Catalog # ASR5508**

**Specification**

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**Anti-STAT3 pY705 (RABBIT) Antibody - Product Information**

|                  |  |
|------------------|--|
| Host             | Rabbit   |
| Conjugate        | Unconjugated   |
| Target Species   | Human  |
| Reactivity       | Human  |
| Clonality        | Polyclonal   |
| Application      | WB, IHC, E, I, LCI   |
| Application Note | STAT3 pY705 antibody has been tested for use in ELISA, IHC, and Western Blot. Expect a band approximately 88.1 kDa in size corresponding to phosphorylated STAT3 protein by western blotting in the appropriate stimulated tissue or cell lysate or extract. Specific conditions for reactivity should be optimized by the end user. |
| Physical State   | Liquid (sterile filtered)  |
| Buffer           | 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2   |
| Immunogen        | This affinity purified Stat3 antibody was prepared by repeated immunizations with a phosphorylated synthetic peptide corresponding to the region of amino acids surrounding tyrosine 705 of human Stat3.   |
| Preservative     | 0.01% (w/v) Sodium Azide   |

**Anti-STAT3 pY705 (RABBIT) Antibody - Additional Information**

**Gene ID** 6774

**Other Names**  
6774

**Purity**

Anti-STAT3 antibody is an affinity-purified antibody and is directed against the phosphorylated form of human STAT3 protein at the Y705. Anti-Stat3 antibody was affinity purified from monospecific antiserum by immunoaffinity purification. Antiserum was first purified against the phosphorylated form of the immunizing peptide. The resultant affinity purified antibody was then cross adsorbed against the non-phosphorylated form of the immunizing peptide. Anti-Stat3 antibody is specific for the phosphorylated form of the protein. Reactivity with non-phosphorylated Stat3 protein is minimal by ELISA and western blot. A BLAST analysis was used to suggest cross reactivity with Stat3 antibodies from human, mouse, rat, and pig based on 100% sequence homology with the immunogen. Reactivity against homologues from other sources is not known.

**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 pY705 (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:<a href="http://www.uniprot.org/citations/10688651" target="\_blank">10688651</a>, PubMed:<a href="http://www.uniprot.org/citations/12359225" target="\_blank">12359225</a>, PubMed:<a href="http://www.uniprot.org/citations/12873986" target="\_blank">12873986</a>, PubMed:<a href="http://www.uniprot.org/citations/15194700" target="\_blank">15194700</a>, PubMed:<a href="http://www.uniprot.org/citations/15653507" target="\_blank">15653507</a>, PubMed:<a href="http://www.uniprot.org/citations/16285960" target="\_blank">16285960</a>, PubMed:<a href="http://www.uniprot.org/citations/17344214" target="\_blank">17344214</a>, PubMed:<a href="http://www.uniprot.org/citations/18242580" target="\_blank">18242580</a>, PubMed:<a href="http://www.uniprot.org/citations/18782771" target="\_blank">18782771</a>, PubMed:<a href="http://www.uniprot.org/citations/22306293" target="\_blank">22306293</a>, PubMed:<a href="http://www.uniprot.org/citations/23084476" target="\_blank">23084476</a>, PubMed:<a href="http://www.uniprot.org/citations/28262505" target="\_blank">28262505</a>, PubMed:<a href="http://www.uniprot.org/citations/32929201" target="\_blank">32929201</a>, PubMed:<a href="http://www.uniprot.org/citations/38404237" target="\_blank">38404237</a>). Once activated, recruits coactivators, such as NCOA1 or MED1, to the promoter region of the target gene (PubMed:<a href="http://www.uniprot.org/citations/15653507" target="\_blank">15653507</a>, PubMed:<a href="http://www.uniprot.org/citations/16285960" target="\_blank">16285960</a>, PubMed:<a href="http://www.uniprot.org/citations/17344214" target="\_blank">17344214</a>, PubMed:<a href="http://www.uniprot.org/citations/18782771" target="\_blank">18782771</a>, PubMed:<a href="http://www.uniprot.org/citations/28262505" target="\_blank">28262505</a>, PubMed:<a href="http://www.uniprot.org/citations/32929201" target="\_blank">32929201</a>). May mediate cellular responses to activated FGFR1, FGFR2, FGFR3 and FGFR4 (PubMed:<a href="http://www.uniprot.org/citations/12873986" target="\_blank">12873986</a>). 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:<a href="http://www.uniprot.org/citations/12359225" target="\_blank">12359225</a>). Activated by IL31 through IL31RA (PubMed:<a href="http://www.uniprot.org/citations/15194700" target="\_blank">15194700</a>). 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:<a href="http://www.uniprot.org/citations/28065600" target="\_blank">28065600</a>, PubMed:<a href="http://www.uniprot.org/citations/28262505" target="\_blank">28262505</a>). Involved in cell cycle regulation by inducing the expression of key genes for the progression from G1 to S phase, such as CCND1 (PubMed:<a href="http://www.uniprot.org/citations/17344214" target="\_blank">17344214</a>). 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:<a href="http://www.uniprot.org/citations/18242580" target="\_blank">18242580</a>). Cytoplasmic STAT3 represses macroautophagy by inhibiting EIF2AK2/PKR activity (PubMed:<a href="http://www.uniprot.org/citations/23084476" target="\_blank">23084476</a>). 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

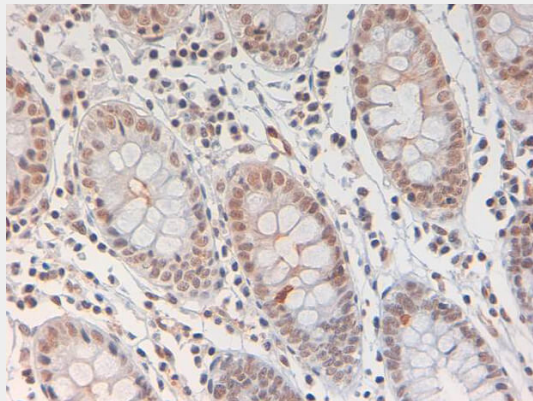
Heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas. Expressed in naive CD4(+) T cells as well as T-helper Th17, Th1 and Th2 cells (PubMed:31899195)

### Anti-STAT3 pY705 (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 pY705 (RABBIT) Antibody - Images



Immunohistochemistry of Rabbit anti STAT3 pY705 Antibody. Tissue: Human Colon at 40X in colon tissue at pH 9. Fixation: formalin fixed paraffin embedded. Antigen retrieval: not required. Primary antibody: STAT3 pY705 antibody at 10 µg/mL for 1 h at RT. Secondary antibody: Peroxidase rabbit secondary antibody at 1:10,000 for 45 min at RT. Localization: STAT3 phospho Y705 is nuclear and cytoplasmic. Staining: STAT3 (pTyr705) as precipitated red signal with

hematoxylin purple nuclear counterstain.

### **Anti-STAT3 pY705 (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.