

# Phospho-STAT3 (Y705) Antibody

Rabbit mAb

Catalog # AP90998

## Product Information

|                          |   |
|--------------------------|---|
| <b>Application</b>       | WB, IHC, IF, ICC, IP, IHF                       |
| <b>Primary Accession</b> | <a href="#">P40763</a>                          |
| <b>Reactivity</b>        | Rat, Human, Mouse                               |
| <b>Clonality</b>         | Monoclonal                                      |
| <b>Other Names</b>       | APRF; Stat3; HIES; Acute-phase response factor; |
| <b>Isotype</b>           | Rabbit IgG                                      |
| <b>Host</b>              | Rabbit  |
| <b>Calculated MW</b>     | 88068   |

## Additional Information

|                                     |   |
|-------------------------------------|---|
| <b>Dilution</b>                     | WB 1:5000~1:10000 IHC 1:50~1:100 ICC/IF 1:50~1:000 IP 1:30  |
| <b>Purification</b>                 | Affinity-chromatography   |
| <b>Immunogen</b>                    | A synthesized peptide derived from human STAT3  |
| <b>Description</b>                  | The protein encoded by this gene is a member of the STAT protein family. In response to cytokines and growth factors, STAT family members are phosphorylated by the 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. |
| <b>Storage Condition and Buffer</b> | Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.   |

## Protein Information

|                 |  |
|-----------------|--|
| <b>Name</b>     | STAT3 {ECO:0000303   PubMed:9630560, ECO:0000312   HGNC:HGNC:11364}  |
| <b>Function</b> | Signal transducer and transcription activator that mediates cellular responses to interleukins, KITLG/SCF, LEP and other growth factors (PubMed: <a href="#">10688651</a> , PubMed: <a href="#">12359225</a> , PubMed: <a href="#">12873986</a> , PubMed: <a href="#">15194700</a> , PubMed: <a href="#">15653507</a> , PubMed: <a href="#">16285960</a> , PubMed: <a href="#">17344214</a> , PubMed: <a href="#">18242580</a> , PubMed: <a href="#">18782771</a> , PubMed: <a href="#">22306293</a> , PubMed: <a href="#">23084476</a> , PubMed: <a href="#">28262505</a> , PubMed: <a href="#">32929201</a> , PubMed: <a href="#">38404237</a> ). Once activated, recruits coactivators, such as NCOA1 or MED1, to the promoter region of the target gene (PubMed: <a href="#">15653507</a> , PubMed: <a href="#">16285960</a> , PubMed: <a href="#">17344214</a> , PubMed: <a href="#">18782771</a> , PubMed: <a href="#">28262505</a> , PubMed: <a href="#">32929201</a> ). May mediate cellular responses to activated FGFR1, FGFR2, FGFR3 and FGFR4 (PubMed: <a href="#">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:[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).

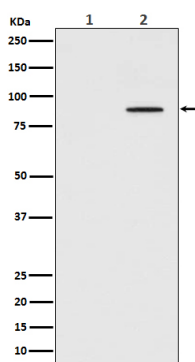
## Cellular Location

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](#))

## Images



Western blot analysis of Phospho-STAT3 (Tyr705) expression in (1) HeLa cell lysate; (2) HeLa cell lysate treated with IFN-a.

Image not found : 202311/AP90998-IHC.jpg

Immunohistochemical analysis of paraffin-embedded human pancreas, using Phospho-STAT3 (Y705) Antibody.

Image not found : 202311/AP90998-IF.jpg

Immunofluorescent analysis of HeLa cells treated with IFN-alpha, using Phospho-STAT3 (Y705) Antibody.

Image not found : 202311/AP90998-wb5.jpg

Triptolide delays disease progression in an adult rat model of polycystic kidney disease through the JAK2/STAT3 pathway. -American Journal of Physiology-Renal Physiology

Image not found : 202311/AP90998-wb6.jpg

Intracellular Ca<sup>2+</sup> homeostasis and JAK1/STAT3 pathway are involved in the protective effect of propofol on BV2 microglia against hypoxia-induced inflammation and apoptosis. -plos one

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