

Phospho-STAT3(Y705) Antibody Blocking peptide
Synthetic peptide
Catalog # BP3261a**Specification**

Phospho-STAT3(Y705) Antibody Blocking peptide - Product InformationPrimary Accession [P40763](#)**Phospho-STAT3(Y705) Antibody Blocking peptide - Additional Information****Gene ID** 6774**Other Names**

Signal transducer and activator of transcription 3, Acute-phase response factor, STAT3, APRF

Target/Specificity

The synthetic peptide sequence used to generate the antibody [AP3261a](/product/products/AP3261a) was selected from the region of human Phospho-STAT3-Y705. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Phospho-STAT3(Y705) Antibody Blocking peptide - 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)).

href="http://www.uniprot.org/citations/23084476" target="_blank">23084476, PubMed:32929201, PubMed:28262505). Once activated, recruits coactivators, such as NCOA1 or MED1, to the promoter region of the target gene (PubMed:16285960, PubMed:15653507, 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: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)

Phospho-STAT3(Y705) Antibody Blocking peptide - Protocols

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

- [Blocking Peptides](#)

Phospho-STAT3(Y705) Antibody Blocking peptide - Images**Phospho-STAT3(Y705) Antibody Blocking peptide - Background**

STAT3 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. This protein mediates the expression of a variety of genes in response to cell stimuli, and thus plays a key role in many cellular processes such as cell growth and apoptosis. The small GTPase Rac1 has been shown to bind and regulate the activity of this protein. PIAS3 protein is a specific inhibitor of this protein.

Phospho-STAT3(Y705) Antibody Blocking peptide - References

Schick, N., et al., J. Biol. Chem. 279(37):38787-38796 (2004). Wang, H., et al., Lab. Invest. 84(8):941-951 (2004). Kato, T., et al., J. Biol. Chem. 279(30):31076-31080 (2004). Ivanova, A.V., et al., J. Mol. Biol. 340(4):641-653 (2004). Park, J., et al., Biochem. Biophys. Res. Commun. 320(1):279-285 (2004).