

Phospho-STAT1(S727) Antibody Blocking peptide

Synthetic peptide Catalog # BP3256a

Specification

Phospho-STAT1(S727) Antibody Blocking peptide - Product Information

Primary Accession

P42224

Phospho-STAT1(S727) Antibody Blocking peptide - Additional Information

Gene ID 6772

Other Names

Signal transducer and activator of transcription 1-alpha/beta, Transcription factor ISGF-3 components p91/p84, STAT1

Target/Specificity

The synthetic peptide sequence used to generate the antibody AP3256a was selected from the 721-733 <CR>region of human Phospho-STAT1-S727. 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-STAT1(S727) Antibody Blocking peptide - Protein Information

Name STAT1

Function

Signal transducer and transcription activator that mediates cellular responses to interferons (IFNs), cytokine KITLG/SCF and other cytokines and other growth factors (PubMed:12764129, PubMed:12855578, PubMed:15322115, PubMed:23940278, PubMed:34508746, PubMed:35568036, PubMed:9724754). Following type I IFN (IFN-alpha and IFN-beta) binding to cell surface receptors, signaling via protein kinases leads to activation of Jak kinases (TYK2 and JAK1) and to tyrosine phosphorylation of STAT1 and STAT2.



Tel: 858.875.1900 Fax: 858.875.1999

The phosphorylated STATs dimerize and associate with ISGF3G/IRF-9 to form a complex termed ISGF3 transcription factor, that enters the nucleus (PubMed:28753426, PubMed:35568036). ISGF3 binds to the IFN stimulated response element (ISRE) to activate the transcription of IFN-stimulated genes (ISG), which drive the cell in an antiviral state (PubMed: 28753426, PubMed:35568036). In response to type II IFN (IFN-gamma), STAT1 is tyrosine- and serine-phosphorylated (PubMed: 26479788). It then forms a homodimer termed IFN-gamma-activated factor (GAF), migrates into the nucleus and binds to the IFN gamma activated sequence (GAS) to drive the expression of the target genes, inducing a cellular antiviral state (PubMed: 8156998). Becomes activated in response to KITLG/SCF and KIT signaling (PubMed: 15526160). May mediate cellular responses to activated FGFR1, FGFR2, FGFR3 and FGFR4 (PubMed:19088846). Following bacterial lipopolysaccharide (LPS)-induced TLR4 endocytosis, phosphorylated at Thr-749 by IKBKB which promotes binding of STAT1 to the 5'-TTTGAGGC-3' sequence in the ARID5A promoter, resulting in transcriptional activation of ARID5A and subsequent ARID5A-mediated stabilization of IL6 (PubMed:32209697). Phosphorylation at Thr-749 also promotes binding of STAT1 to

the 5'-TTTGAGTC-3' sequence in the IL12B promoter and activation of IL12B transcription $(PubMed: 32209697).$ Involved in food tolerance in small intestine: associates with the Gasdermin-D, p13 cleavage product (13 kDa GSDMD) and promotes transcription of CIITA, inducing type 1 regulatory T (Tr1) cells in upper small intestine (By similarity).

Cellular Location

Cytoplasm. Nucleus Note=Translocated into the nucleus upon tyrosine phosphorylation and dimerization, in response to IFN-gamma and signaling by activated FGFR1, FGFR2, FGFR3 or FGFR4 (PubMed:15322115). Monomethylation at Lys- 525 is required for phosphorylation at Tyr-701 and translocation into the nucleus (PubMed:28753426). Translocates into the nucleus in response to interferon-beta stimulation (PubMed:26479788)

Phospho-STAT1(S727) Antibody Blocking peptide - Protocols

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

Blocking Peptides

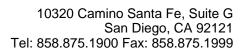
Phospho-STAT1(S727) Antibody Blocking peptide - Images

Phospho-STAT1(S727) Antibody Blocking peptide - Background

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. STAT1 can be activated by various ligands including interferon-alpha, interferon-gamma, EGF, PDGF and IL6. This protein mediates the expression of a variety of genes, which is thought to be important for cell viability in response to different cell stimuli and pathogens.

Phospho-STAT1(S727) Antibody Blocking peptide - References

Garcin, D., et al., J. Virol. 78(16):8799-8811 (2004). Melen, K., et al., J. Med. Virol. 73(4):536-547 (2004).Klampfer, L., et al., J. Biol. Chem. 279(29):30358-30368 (2004).Marg, A., et al., J. Cell Biol.





165(6):823-833 (2004).Chim, C.S., et al., Blood 103(12):4630-4635 (2004).