

ARG63103 anti-STAT1 phospho (Ser727) antibody [PSM1]

Package: 100 μg Store at: -20°C

Summary

Product Description	Mouse Monoclonal antibody [PSM1] recognizes STAT1 phospho (Ser727)
Tested Reactivity	Hu
Tested Application	IP, WB
Specificity	The clone PSM1 recognizes transcriptional factor STAT1 (91 kDa) activated by phosphorylation at Ser727.
Host	Mouse
Clonality	Monoclonal
Clone	PSM1
lsotype	lgG1
Target Name	STAT1
Immunogen	STAT1 peptide sequence 721-733 (Ser727 phosphorylated).
Conjugation	Un-conjugated
Alternate Names	ISGF-3; Signal transducer and activator of transcription 1-alpha/beta; Transcription factor ISGF-3 components p91/p84; CANDF7; IMD31A; IMD31B; IMD31C; STAT91

Application Instructions

Application table	Application	Dilution
	IP	Assay-dependent
	WB	Assay-dependent
Application Note	* The dilutions indicate recomme should be determined by the scie	nded starting dilutions and the optimal dilutions or concentrations ntist.

Properties

Liquid
Purified from hybridoma culture supernatant by protein-A affinity chromatography.
> 95% (by SDS-PAGE)
PBS (pH 7.4) and 15 mM Sodium azide
15 mM Sodium azide
1 mg/ml
For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.

Bioinformation

Database links	GeneID: 6772 Human
	Swiss-port # P42224 Human
Gene Symbol	STAT1
Gene Full Name	signal transducer and activator of transcription 1, 91kDa
Background	STAT1 (signal transducer and activator of transcription 1) is a transcription factor that plays important roles in growth arrest, apoptosis promoting and tumour suppression. After ligation of cytokine receptors STAT1 becomes phosphorylated on Tyr701 by Janus kinase JAK1 or JAK2, dimerizes, translocates to nucleus and contacts DNA. STAT1-STAT2 heterodimers serve as more potent transcriptional inducers than STAT1 homodimers. STAT1 is also phosphorylated on Ser727 by MAPK pathway, independently of tyrosine phosphorylation. However, the both modifications are important for its maximal transcriptional activity. On the other hand, STAT1 phosphorylated on Ser727 is targeted for proteasomal degradation.
Function	Signal transducer and transcription activator that mediates cellular responses to interferons (IFNs), cytokine KITLG/SCF and other cytokines and other growth factors. 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. The phosphorylated STATs dimerize and associate with ISGF3G/IRF-9 to form a complex termed ISGF3 transcription factor, that enters the nucleus. 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. In response to type II IFN (IFN-gamma), STAT1 is tyrosine- and serine-phosphorylated. 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. Becomes activated in response to KITLG/SCF and KIT signaling. May mediate cellular responses to activated FGFR1, FGFR2, FGFR3 and FGFR4. [UniProt]
Highlight	Related products: <u>STAT1 antibodies; STAT1 Duos / Panels; Anti-Mouse IgG secondary antibodies;</u> Related news: <u>Exploring Antiviral Immune Response</u> <u>circNDUFB2, a circular RNA (circRNA), activates anti-tumor immunity</u>
Research Area	Cancer antibody; Gene Regulation antibody; Signaling Transduction antibody
Calculated Mw	87 kDa
PTM	Phosphorylated on tyrosine and serine residues in response to a variety of cytokines/growth hormones including IFN-alpha, IFN-gamma, PDGF and EGF. Activated KIT promotes phosphorylation on tyrosine residues and subsequent translocation to the nucleus. Upon EGF stimulation, phosphorylation on Tyr-701 (lacking in beta form) by JAK1, JAK2 or TYK2 promotes dimerization and subsequent translocation to the nucleus. Growth hormone (GH) activates STAT1 signaling only via JAK2. Tyrosine phosphorylated in response to constitutively activated FGFR1, FGFR2, FGFR3 and FGFR4. Phosphorylation on Ser-727 by several kinases including MAPK14, ERK1/2 and CAMKII on IFN-gamma stimulation, regulates STAT1 transcriptional activity. Phosphorylation on Ser-727 promotes sumoylation though increasing interaction with PIAS. Phosphorylated on tyrosine residues when PTK2/FAK1 is activated; most likely this is catalyzed by a SRC family kinase. Dephosphorylation on Tyr-701 and is required for the binding of ISGF3 on the ISREs of a subset of IFN-stimulated genes IKBKE-dependent. Phosphorylation at Tyr-701 and Ser-708 are mutually exclusive, phosphorylation at Ser-708 requires previous dephosphorylation on Tyr-701. Sumoylated with SUMO1, SUMO2 and SUMO3. Sumoylation is enhanced by IFN-gamma-induced phosphorylation on Ser-727, and by interaction with PIAS proteins. Enhances the transactivation activity. ISGylated.



ARG63103 anti-STAT1 phospho (Ser727) antibody [PSM1] WB image

Western blot: 1) IFN- γ treated HeLa cell lysate immunoprecipitated with anti-STAT1 [SM2] antibody, and 2) IFN- γ treated HeLa cell lysate stained with ARG63103 anti-STAT1 phospho (Ser727) antibody [PSM1].