

## ARG51548 anti-STAT1 phospho (Tyr701) antibody

Package: 100 µl, 50 µl  
Store at: -20°C

### Summary

Product Description	Rabbit Polyclonal antibody recognizes STAT1 phospho (Tyr701)
Tested Reactivity	Hu, Ms, Rat
Tested Application	ICC/IF, IHC-P, WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	STAT1
Species	Human
Immunogen	Peptide sequence around phosphorylation site of tyrosine 701 (T-G-Y(p)-I-K) derived from Human STAT1.
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
	ICC/IF	
	IHC-P	1:50 - 1:100
	WB	1:500 - 1:1000
Application Note	* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.	

### Properties

Form	Liquid
Purification	Antibodies were produced by immunizing rabbits with KLH-conjugated synthetic phosphopeptide. Antibodies were purified by affinity-chromatography using epitope-specific phosphopeptide. In addition, non-phospho specific antibodies were removed by chromatography using non-phosphopeptide.
Buffer	PBS (without Mg <sup>2+</sup> and Ca <sup>2+</sup> , pH 7.4), 150mM NaCl, 0.02% Sodium azide and 50% Glycerol.
Preservative	0.02% Sodium azide
Stabilizer	50% Glycerol
Concentration	1 mg/ml
Storage instruction	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. 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.

**Note** For laboratory research only, not for drug, diagnostic or other use.

## Bioinformation

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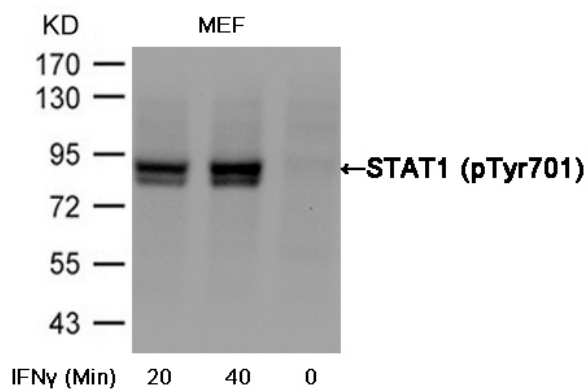
Database links	<a href="#">GeneID: 25124 Rat</a>  <a href="#">GeneID: 6772 Human</a>  <a href="#">Swiss-port # P42224 Human</a>
Gene Symbol	STAT1
Gene Full Name	signal transducer and activator of transcription 1, 91kDa
Background	Signal transducer and activator of transcription that mediates signaling by interferons (IFNs). Following type I IFN (IFN-alpha and IFN-beta) binding to cell surface receptors, Jak kinases (TYK2 and JAK1) are activated, leading to tyrosine phosphorylation of STAT1 and STAT2. The phosphorylated STATs dimerize, 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 interferon stimulated genes, 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.
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 Antibody Duos and Panels: <a href="#">ARG30339 STAT1 / Phospho STAT1 (pY701) Antibody Duo</a> Related products: <a href="#">STAT1 antibodies; STAT1 Duos / Panels; Anti-Rabbit IgG secondary antibodies;</a> Related news: <a href="#">Exploring Antiviral Immune Response</a> <a href="#">circNDUFB2, a circular RNA (circRNA), activates anti-tumor immunity</a>
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. Phosphorylation on Ser-727 by PRKCD induces apoptosis in response to DNA-damaging agents. Phosphorylated on tyrosine residues when PTK2/FAK1 is activated; most likely this is catalyzed by a SRC family kinase. Dephosphorylation on tyrosine residues by PTPN2 negatively regulates interferon-mediated signaling. Upon viral infection or IFN induction, phosphorylation on Ser-708 occurs much later than phosphorylation 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 of 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.

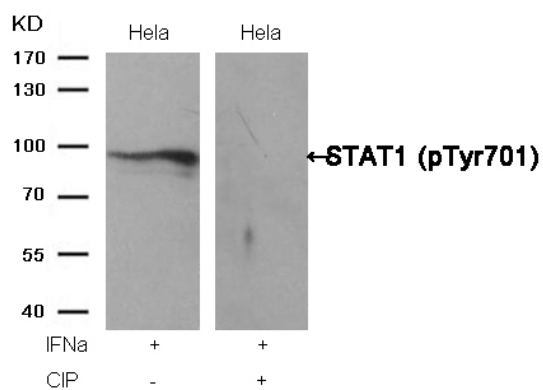
ISGylated.

## Images



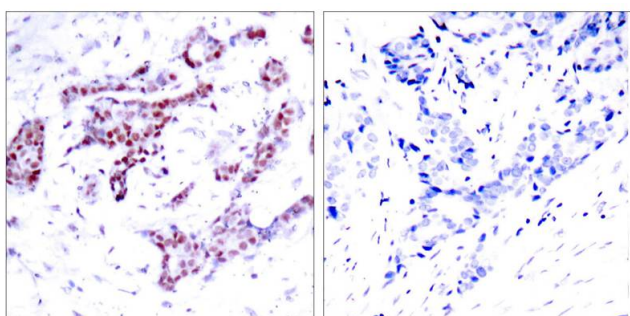
ARG51548 anti-STAT1 phospho (Tyr701) antibody WB image

Western blot: Extracts from MEF cells untreated or treated with interferon- $\gamma$  (IFN $\gamma$ ) stained with ARG51548 anti-STAT1 phospho (Tyr701) antibody.



ARG51548 anti-STAT1 phospho (Tyr701) antibody WB image

Western blot: Extracts from HeLa cells, treated with IFN $\alpha$  or calf intestinal phosphatase (CIP), stained with ARG51548 anti-STAT1 phospho (Tyr701) antibody.



ARG51548 anti-STAT1 phospho (Tyr701) antibody IHC-P image

Immunohistochemistry: Paraffin-embedded Human breast carcinoma tissue stained with ARG51548 anti-STAT1 phospho (Tyr701) antibody (left) or the same antibody preincubated with blocking peptide (right).