

# Stat1 Polyclonal Antibody

Catalog # AP72623

## Product Information

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Application	WB, IHC-P, IF, E
Primary Accession	<a href="#">P42224</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	87335

## Additional Information

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Gene ID	6772
Other Names	STAT1; Signal transducer and activator of transcription 1-alpha/beta; Transcription factor ISGF-3 components p91/p84
Dilution	WB~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. Immunoprecipitation: 2-5 ug/mg lysate. ELISA: 1/10000. Not yet tested in other applications. IHC-P~~N/A IF~~1:50~200 E~~N/A
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
Storage Conditions	-20°C

## Protein Information

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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: <a href="#">12764129</a> , PubMed: <a href="#">12855578</a> , PubMed: <a href="#">15322115</a> , PubMed: <a href="#">23940278</a> , PubMed: <a href="#">34508746</a> , PubMed: <a href="#">35568036</a> , PubMed: <a href="#">9724754</a> ). 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 (PubMed: <a href="#">28753426</a> , PubMed: <a href="#">35568036</a> ). 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: <a href="#">28753426</a> , PubMed: <a href="#">35568036</a> ). In response to type II IFN (IFN-gamma), STAT1 is tyrosine- and serine-phosphorylated (PubMed: <a href="#">26479788</a> ). 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 IKK $\beta$  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).

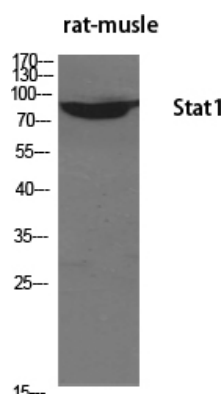
## Cellular Location

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](#)).

## Background

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 (PubMed:[28753426](#)). 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 (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. Becomes activated in response to KITLG/SCF and KIT signaling. May mediate cellular responses to activated FGFR1, FGFR2, FGFR3 and FGFR4.

## Images



Western Blot analysis of various cells using Stat1 Polyclonal Antibody diluted at 1 : 500

Western Blot analysis of COS7 cells using Stat1 Polyclonal Antibody diluted at 1 : 500



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