

**KD-Validated Anti-STAT1 Rabbit Monoclonal Antibody**  
**Rabbit monoclonal antibody**  
**Catalog # AGI1408****Specification****KD-Validated Anti-STAT1 Rabbit Monoclonal Antibody - Product Information**

Application	WB, FC, ICC
Primary Accession	<a href="#">P42224</a>
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Calculated MW	Predicted, 87 kDa , observed, 84 kDa KDa
Gene Name	STAT1
Aliases	STAT1; Signal Transducer And Activator Of Transcription 1; Transcription Factor ISGF-3 Components P91/P84; STAT91; ISGF-3; Signal Transducer And Activator Of Transcription 1-Alpha/Beta; Signal Transducer And Activator Of Transcription 1, 91kDa; Signal Transducer And Activator Of Transcription 1, 91kD; CANDF7; IMD31A; IMD31B; IMD31C
Immunogen	A synthesized peptide derived from human STAT1

**KD-Validated Anti-STAT1 Rabbit Monoclonal Antibody - Additional Information**

Gene ID	6772
<b>Other Names</b>	
Signal transducer and activator of transcription 1-alpha/beta, Transcription factor ISGF-3 components p91/p84, STAT1	

**KD-Validated Anti-STAT1 Rabbit Monoclonal Antibody - 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:<a href="http://www.uniprot.org/citations/12764129" target="\_blank">12764129</a>, PubMed:<a href="http://www.uniprot.org/citations/12855578" target="\_blank">12855578</a>, PubMed:<a href="http://www.uniprot.org/citations/15322115" target="\_blank">15322115</a>, PubMed:<a href="http://www.uniprot.org/citations/23940278" target="\_blank">23940278</a>, PubMed:<a href="http://www.uniprot.org/citations/34508746" target="\_blank">34508746</a>, PubMed:<a href="http://www.uniprot.org/citations/35568036" target="\_blank">35568036</a>, PubMed:<a href="http://www.uniprot.org/citations/9724754" target="\_blank">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="http://www.uniprot.org/citations/28753426" target="\_blank">28753426</a>, PubMed:<a href="http://www.uniprot.org/citations/35568036" target="\_blank">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="http://www.uniprot.org/citations/28753426" target="\_blank">28753426</a>, PubMed:<a href="http://www.uniprot.org/citations/35568036" target="\_blank">35568036</a>). In response to type II IFN (IFN-gamma), STAT1 is tyrosine- and serine-phosphorylated (PubMed:<a href="http://www.uniprot.org/citations/26479788" target="\_blank">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:<a href="http://www.uniprot.org/citations/8156998" target="\_blank">8156998</a>). Becomes activated in response to KITLG/SCF and KIT signaling (PubMed:<a href="http://www.uniprot.org/citations/15526160" target="\_blank">15526160</a>). May mediate cellular responses to activated FGFR1, FGFR2, FGFR3 and FGFR4 (PubMed:<a href="http://www.uniprot.org/citations/19088846" target="\_blank">19088846</a>). 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:<a href="http://www.uniprot.org/citations/32209697" target="\_blank">32209697</a>). 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:<a href="http://www.uniprot.org/citations/32209697" target="\_blank">32209697</a>). 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)

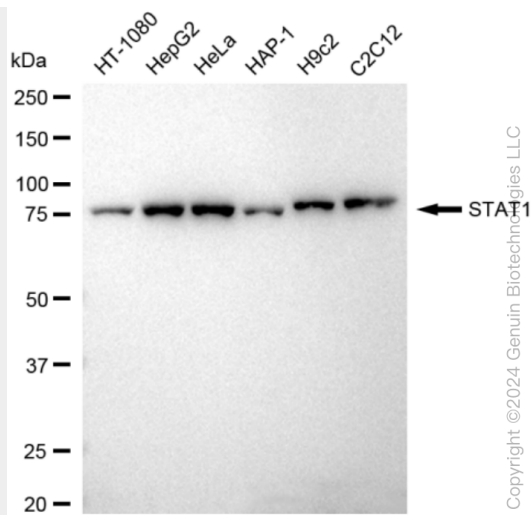
#### **KD-Validated Anti-STAT1 Rabbit Monoclonal Antibody - Protocols**

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

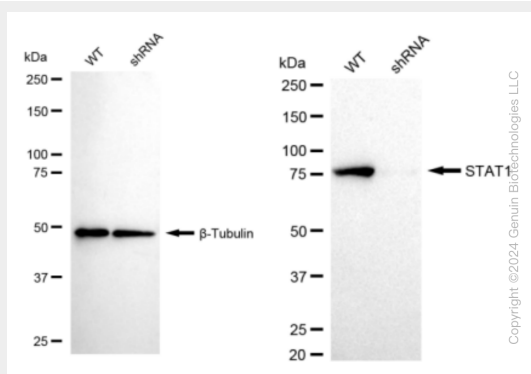
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### **KD-Validated Anti-STAT1 Rabbit Monoclonal Antibody - Images**

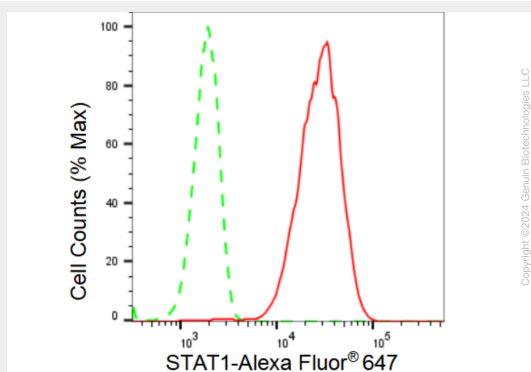




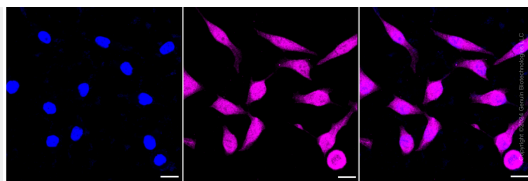
Western blotting analysis using anti-STAT1 antibody (Cat#AGI1408). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-STAT1 antibody (Cat#AGI1408, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Western blotting analysis using anti-STAT1 antibody (Cat#AGI1408). STAT1 expression in wild type (WT) and STAT1 shRNA knockdown (KD) HeLa cells with 30 µg of total cell lysates. β-Tubulin serves as a loading control. The blot was incubated with anti-STAT1 antibody (Cat#AGI1408, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Flow cytometric analysis of STAT1 expression in HeLa cells using STAT1 antibody (Cat#AGI1408, 1:2,000). Green, isotype control; red, STAT1.



Immunocytochemical staining of HeLa cells with STAT1 antibody (Cat#AGI1408, 1:1,000). Nuclei were stained blue with DAPI; STAT1 was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar: 20  $\mu$ m.