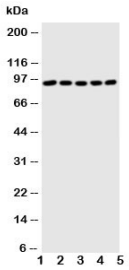
STAT1 Antibody (R30581)

Catalog No.	Formulation	Size
R30581	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2.5% BSA and 0.025% sodium azide/thimerosal
UniProt	P42224
Applications	Western Blot : 0.5-1ug/ml
Limitations	This STAT1 antibody is available for research use only.



Western blot testing of STAT1 antibody and Lane 1: MM451; 2: HeLa; 3: HT1080; 4: SW620; 5: Jurkat cell lysate. Predicted molecular weight: ~91/84 kDa (alpha/beta).

Description

STAT1 Antibody is designed for the detection and study of Signal Transducer and Activator of Transcription 1 (STAT1), a widely expressed transcription factor that serves as a key regulator of cellular responses to cytokines and interferons. STAT1 functions at the intersection of extracellular signaling and gene regulation, allowing cells to rapidly alter transcriptional programs in response to environmental stimuli. Because of its central role in signal-dependent gene expression, STAT1 has become an important target in studies of immunity, inflammation, cellular communication, and tissue homeostasis.

STAT1 is activated through signaling pathways initiated by numerous cytokines and growth factors. Following receptor stimulation, STAT1 undergoes phosphorylation and forms transcriptionally active complexes that accumulate within the nucleus. These complexes regulate expression of genes involved in host defense, immune surveillance, cellular adaptation, and maintenance of normal physiologic function. The ability of STAT1 to directly couple extracellular signals to transcriptional responses makes it one of the most important signaling molecules within vertebrate cells.

In immune biology, STAT1 serves as a major mediator of interferon-dependent signaling pathways and contributes to regulation of both innate and adaptive immune responses. STAT1-controlled gene expression programs influence inflammatory responses, pathogen defense mechanisms, and communication between immune cell populations. As a result, STAT1 is frequently investigated in studies examining cytokine signaling networks, immune cell function, and mechanisms of cellular response to infection and inflammation.

Beyond its established role in immunity, STAT1 participates in broader signaling networks that influence cell growth, differentiation, apoptosis, and developmental processes. Alterations in STAT1 activity can affect how cells interpret extracellular signals and regulate downstream transcriptional pathways. Consequently, STAT1 has attracted considerable interest in research involving cancer biology, developmental biology, regenerative medicine, and signal transduction. Its function as a central signaling intermediary provides valuable insight into the molecular mechanisms that coordinate cellular responses across diverse biologic systems.

STAT1 Antibody is useful for investigating cytokine signaling, interferon responses, transcriptional regulation, immune function, and JAK-STAT pathway activity. Researchers utilize STAT1 Antibody reagents to evaluate protein expression patterns and study molecular mechanisms governing cellular communication, signal transduction, host defense, and stimulus-dependent gene regulation.

Learn more about STAT1 function, interferon signaling, and JAK-STAT pathway regulation on our STAT1 Antibody / JAK-STAT Pathway Transcription Factor page.

Application Notes

The stated application concentrations are suggested starting amounts. Titration of the STAT1 antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

An amino acid sequence from the C-terminus of human STAT1 (RIVGSVEFDSMMNTV) was used as the immunogen for this STAT1 antibody.

Storage

After reconstitution, the STAT1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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