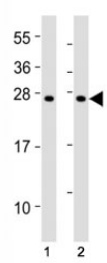
SOCS1 Antibody / TIP3 / SSI1 (F51354)

Catalog No.	Formulation	Size
F51354-0.4ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.4 ml
F51354-0.08ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.08 ml

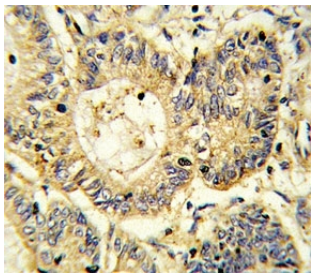
Bulk quote request

Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Purified
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Purified
UniProt	O15524
Applications	Western Blot : 1:1000-2000 IHC (Paraffin) : 1:10-1:50 Immunofluorescence : 1:10-1:50 Flow Cytometry : 1:10-1:50
Limitations	This SOCS1 antibody is available for research use only.

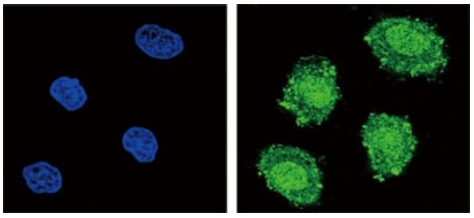


Western blot testing of SOCS1 antibody at 1:2000 dilution. Lane 1: mouse thymus lysate; 2: rat spleen lysate; Predicted molecular weight ~ 24 kDa.

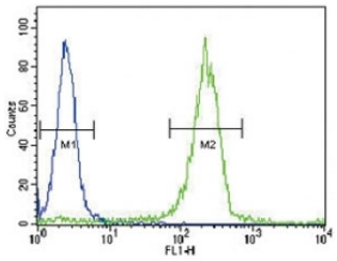
Western blot analysis of SOCS1 antibody and mouse kidney tissue lysate. Predicted molecular weight ~ 24 kDa.



IHC analysis of FFPE human colon carcinoma stained with SOCS1 antibody



Confocal immunofluorescent analysis of SOCS1 antibody with 293 cells followed by Alexa Fluor 488-conjugated goat anti-rabbit IgG (green). DAPI was used as a nuclear counterstain (blue).



SOCS1 antibody flow cytometric analysis of WiDr cells (green) compared to a negative control (blue). FITC-conjugated goat-anti-rabbit secondary Ab was used for the analysis.

Description

SOCS1 antibody detects Suppressor of cytokine signaling 1, a critical negative regulator of cytokine receptor signaling and JAK/STAT pathway activation. The UniProt recommended name is Suppressor of cytokine signaling 1 (SOCS1). Also known as TIP3 or SSI1, this cytoplasmic protein functions as a key feedback inhibitor of immune and inflammatory signaling, ensuring controlled cytokine responses and preventing excessive activation.

Functionally, SOCS1 antibody identifies a 211-amino-acid intracellular signaling protein characterized by a central SH2 domain and a C-terminal SOCS box. SOCS1 binds directly to activated Janus kinases (JAKs), blocking their catalytic activity and targeting them for ubiquitin-mediated degradation. Through this mechanism, SOCS1 attenuates signaling downstream of receptors for interferons, interleukins, and growth factors, maintaining immune balance. It also modulates T-cell activation, macrophage polarization, and insulin signaling by suppressing overactive phosphorylation events.

The SOCS1 gene is located on chromosome 16p13.13 and is expressed in immune-related tissues such as spleen, thymus, and lymph nodes, as well as in hepatocytes and endothelial cells. Its transcription is induced rapidly by cytokines including IFN-gamma, IL-6, and IL-10, forming a classic negative feedback loop within the JAK/STAT pathway. SOCS1 expression is also regulated epigenetically by promoter methylation, influencing its role in disease states.

Pathologically, loss or silencing of SOCS1 has been associated with chronic inflammation, autoimmune diseases, and multiple cancers. Hypermethylation of the SOCS1 promoter frequently occurs in hepatocellular carcinoma, acute myeloid leukemia, and lymphomas, leading to unchecked JAK/STAT activation. Conversely, SOCS1 overexpression can dampen antiviral or antitumor immunity. In metabolic contexts, SOCS1 contributes to insulin resistance by inhibiting insulin receptor signaling. Research using SOCS1 antibody supports studies in cytokine regulation, oncogenic signaling, and immune tolerance mechanisms.

SOCS1 antibody is validated for use in relevant research applications to study JAK/STAT inhibition and cytokine feedback regulation. NSJ Bioreagents provides SOCS1 antibody reagents optimized for research in immune signaling, inflammation, and cancer biology.

Application Notes

Titration of the SOCS1 antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A portion of amino acids 35-66 from the human protein was used as the immunogen for this SOCS1 antibody.

Storage

Aliquot the SOCS1 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.