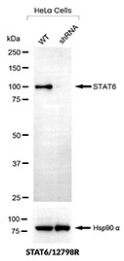
Signal Transducer 6 Antibody / Knockdown-Validated STAT6 Signaling Antibody [clone STAT6/12798R] (V6003)

Catalog No.	Formulation	Size
V6003-100UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V6003-20UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug
V6003SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

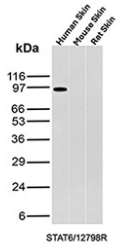
Recombinant RABBIT MONOCLONAL

Bulk quote request

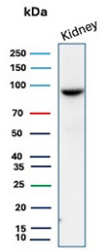
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	STAT6/12798R
UniProt	P42226
Localization	Cytoplasm, Nucleus
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml Knockdown : Western Blot : 2-4ug/ml
Limitations	This Signal Transducer 6 Antibody / Knockdown-Validated STAT6 Signaling Antibody is available for research use only.



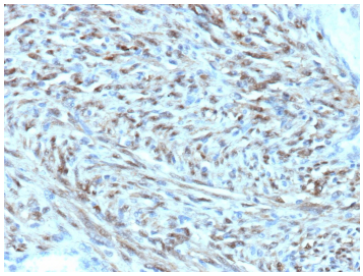
Signal Transducer 6 Antibody Knockdown Validation WB. Western blot analysis of STAT6 expression in wild-type (WT) and STAT6 shRNA knockdown HeLa cells using Signal Transducer 6 antibody clone STAT6/12798R. Lane 1: WT lysate, Lane 2: knockdown lysate. The band at approximately 90-100 kDa is reduced in knockdown cells, supporting target-specific detection. Hsp90 alpha is shown as a loading control.



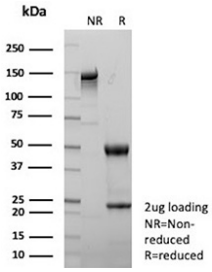
Signal Transducer 6 Antibody Skin Tissue WB. Western blot analysis of STAT6 expression in human, mouse, and rat skin tissue lysates using Signal Transducer 6 antibody clone STAT6/12798R. A band is detected at approximately 90-100 kDa in human samples, consistent with expected STAT6 expression.



Signal Transducer 6 Antibody Kidney Tissue WB. Western blot analysis of STAT6 expression in human kidney lysate using Signal Transducer 6 antibody clone STAT6/12798R. A band is observed at approximately 90-100 kDa, consistent with the predicted molecular weight of STAT6.



Signal Transducer 6 Antibody Liposarcoma IHC. Immunohistochemical analysis of STAT6 expression in formalin-fixed, paraffin-embedded human liposarcoma tissue using Signal Transducer 6 antibody clone STAT6/12798R. Strong nuclear HRP-DAB brown staining is observed in spindle-shaped tumor cells arranged in fascicles, consistent with activated STAT6 signaling and nuclear translocation. HIER: heating in pH 9 Tris-EDTA buffer followed by cooling prior to staining.



Signal Transducer 6 Antibody SDS-PAGE (Reducing vs Non-Reducing). SDS-PAGE analysis of Signal Transducer 6 antibody clone STAT6/12798R under reducing (R) and non-reducing (NR) conditions, demonstrating expected antibody heavy and light chain band patterns.

Description

Signal Transducer and Activator of Transcription 6 (STAT6) is a cytoplasmic and nuclear transcription factor that mediates signaling downstream of interleukin-4 (IL-4) and interleukin-13 (IL-13) receptors. STAT6 (STAT6) is activated through receptor-associated JAK kinases, leading to phosphorylation-dependent dimerization and translocation to the nucleus, where it regulates transcription of genes involved in immune signaling, cell differentiation, and tissue remodeling. As a key member of the JAK-STAT pathway, STAT6 is central to T helper 2 (Th2) immune responses and cytokine-driven transcriptional programs. The Signal Transducer 6 Antibody / Knockdown-Validated STAT6 Signaling Antibody is developed to detect this transcription factor with high specificity in both tissue-based and biochemical assays. It is part of a collection of knockdown validated antibodies that have been functionally assessed using gene silencing approaches to support target-specific detection.

Signal Transducer 6 antibody, also referred to as STAT6 antibody and STAT6 transcription factor antibody, recognizes a protein that exhibits dynamic subcellular localization depending on activation state. Immunohistochemistry analysis of formalin-fixed, paraffin-embedded human liposarcoma tissue demonstrates strong nuclear HRP-DAB brown staining in spindle-shaped tumor cells arranged in intersecting fascicles. This prominent nuclear localization reflects activation of STAT6 signaling and is consistent with phosphorylation-dependent nuclear translocation. The clear nuclear signal in tumor cells, combined with minimal background staining in surrounding stromal elements, provides a highly specific and

interpretable staining pattern for evaluating STAT6 pathway activation in tissue sections.

Western blot analysis identifies a distinct band at approximately 90-100 kDa in human cell and tissue lysates, consistent with the expected molecular weight of STAT6. The band is well-resolved across multiple sample types, supporting reliable detection in lysate-based assays. Importantly, knockdown validation using STAT6-targeted shRNA in HeLa cells results in a marked reduction in signal compared to wild-type controls, confirming that the detected band corresponds specifically to STAT6 protein. This gene silencing-based validation provides direct functional evidence linking antibody signal to endogenous STAT6 expression and establishes strong confidence in target specificity.

Functionally, STAT6 regulates transcriptional programs associated with cytokine signaling, immune modulation, and cellular differentiation. Upon activation, STAT6 accumulates in the nucleus where it controls expression of genes involved in immune cell polarization, epithelial responses, and tissue remodeling processes. This activation-dependent nuclear localization is a defining feature of STAT6 biology and is directly reflected in immunohistochemical staining patterns, where nuclear signal serves as an indicator of pathway engagement.

In disease contexts, STAT6 signaling contributes to tumor progression, immune evasion, and microenvironmental remodeling. Its activity is particularly relevant in tumors influenced by cytokine signaling, where STAT6-driven transcription can alter cell survival and differentiation programs. Nuclear STAT6 detection in tumor tissue therefore provides insight into active signaling pathways and can support studies of tumor biology and immune interactions. The strong nuclear staining observed in liposarcoma tissue highlights this functional role and supports use of this antibody in research focused on transcription factor activation states.

The combination of robust nuclear IHC staining in tumor tissue, consistent molecular weight detection in western blot, and functional knockdown validation makes clone STAT6/12798R a well-characterized reagent for studying STAT signaling and transcriptional regulation. These complementary validation approaches support its use in applications requiring high specificity and reproducibility, particularly in investigations of cytokine signaling, immune regulation, and transcription factor activity.

This antibody is part of a broader antibody panel offered by NSJ Bioreagents.

Application Notes

Optimal dilution of the Signal Transducer 6 Antibody / Knockdown-Validated STAT6 Signaling Antibody should be determined by the researcher.

Immunogen

A recombinant fragment (around amino acids 600-801) of human STAT6 protein (exact sequence is proprietary) was used as the immunogen for the Signal Transducer 6/STAT6 antibody.

Storage

Signal Transducer 6/STAT6 antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.

Alternate Names

STAT6 antibody, Signal transducer and activator of transcription 6 antibody, STAT6 signaling antibody, STAT6 nuclear transcription factor antibody, STAT6 knockdown antibody