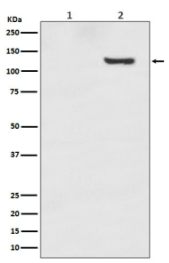
Phospho-SIRT1 (pThr530) Antibody / Sirtuin 1 [clone HAI-19] (FY13407)

Catalog No.	Formulation	Size
FY13407	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA	100 ul

Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-2 days
Species Reactivity	Human
Format	Liquid
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	HAI-19
Purity	Affinity chromatography
Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
UniProt	Q96EB6
Localization	Nuclear, cytoplasmic
Applications	Western Blot : 1:500-1:2000
Limitations	This Phospho-SIRT1 (pThr530) antibody is available for research use only.



Western blot analysis of Phospho-SIRT1 (pThr530) expression in (1) 293T cell lysate and (2) lysate from 293T cells treated with Calyculin A, using Phospho-SIRT1 (pThr530) antibody.

Description

Phospho-SIRT1 (pThr530) antibody targets the phosphorylated form of Sirtuin 1 (SIRT1) at threonine 530, a regulatory

post-translational modification associated with modulation of SIRT1 activity and protein interactions. SIRT1 is a NAD-dependent deacetylase that localizes primarily to the nucleus, with context-dependent presence in the cytoplasm, where it regulates transcriptional programs linked to metabolism, stress responses, DNA repair, and cellular longevity. Phosphorylation represents an important mechanism by which upstream signaling pathways fine-tune SIRT1 function beyond changes in expression alone. Detection of SIRT1 phosphorylated at Thr530 provides insight into the activated or signaling-responsive pool of the protein rather than total SIRT1 abundance.

SIRT1 functions as a key regulator of chromatin structure and transcription through deacetylation of histones and non-histone substrates, including transcription factors and co-regulators involved in metabolic and stress-responsive pathways. Phosphorylation at Thr530 has been reported to influence SIRT1 enzymatic activity, protein stability, and interactions with regulatory partners, linking extracellular and intracellular signals to epigenetic and transcriptional control. As a result, phospho-SIRT1 serves as a useful molecular readout of pathway engagement that impacts cellular adaptation to energetic and environmental cues. A Phospho-SIRT1 antibody supports studies examining signal-dependent regulation of deacetylase activity.

Phosphorylated SIRT1 plays roles across multiple cell types, including metabolically active tissues, proliferating cells, and cells responding to genotoxic or oxidative stress. Changes in SIRT1 phosphorylation status can alter transcriptional outputs governing mitochondrial biogenesis, cell cycle progression, and stress tolerance. Because phosphorylation events are often transient and tightly regulated, monitoring phospho-SIRT1 levels enables investigation of dynamic signaling processes that may not be apparent when measuring total protein alone.

From a biological and disease-relevance perspective, SIRT1 has been extensively studied in the context of aging, metabolic regulation, neurobiology, and cancer-related signaling. Dysregulation of SIRT1 activity or its post-translational modification landscape can influence cellular homeostasis and disease-associated phenotypes. Phosphorylation-specific analysis of SIRT1 provides mechanistic insight into how upstream kinases and signaling pathways modulate SIRT1-driven transcriptional and epigenetic programs under physiological and pathological conditions.

At the molecular level, SIRT1 is encoded by the SIRT1 gene and produces a protein that migrates at approximately 110-120 kDa on SDS-PAGE, depending on post-translational modification status. Threonine 530 lies within a regulatory region of the protein that integrates signaling inputs with enzymatic function. A Phospho-SIRT1 (pThr530) antibody supports research applications focused on signal transduction, post-translational regulation, and functional analysis of SIRT1 activity, with NSJ Bioreagents providing reagents intended for research use.

Application Notes

Optimal dilution of the Phospho-SIRT1 (pThr530) antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human SIRT1 (pThr530) was used as the immunogen for the Phospho-SIRT1 (pThr530) antibody.

Storage

Store the Phospho-SIRT1 (pThr530) antibody at -20oC.