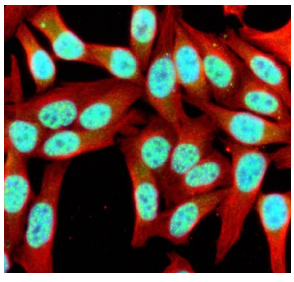
SIK1 Antibody / Salt-inducible kinase 1 (FY12519)

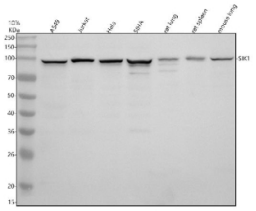
Catalog No.	Formulation	Size
FY12519	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

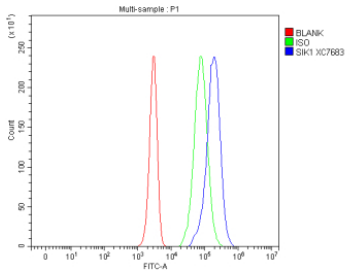
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P57059
Localization	Nuclear, cytoplasmic
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry/Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This SIK1 antibody is available for research use only.



Immunofluorescent staining of SIK1 using anti-SIK1 antibody (green) and anti-Beta Tubulin antibody (red). SIK1 was detected in an immunocytochemical section of Hela cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-SIK1 antibody and mouse anti-Beta Tubulin antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG and Cy3 Conjugated Goat Anti-Mouse IgG were used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. The section was counterstained with DAPI nuclear stain (blue). Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of SIK1 using anti-SIK1 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human whole cell lysates, Lane 2: human Jurkat whole cell lysates, Lane 3: human Hela whole cell lysates, Lane 4: human SIHA whole cell lysates, Lane 5: rat lung tissue lysates, Lane 6: rat spleen tissue lysates, Lane 7: mouse lung tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-SIK1 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using an ECL Plus Western Blotting Substrate. The expected molecular weight of SIK1 is ~85 kDa.



Flow Cytometry analysis of Jurkat cells using anti-SIK1 antibody. Overlay histogram showing Jurkat cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-SIK1 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

Description

SIK1 antibody detects Salt-inducible kinase 1, a serine/threonine kinase that regulates energy metabolism, stress signaling, and transcriptional responses to hormonal cues. SIK1 belongs to the AMP-activated protein kinase (AMPK) family and is activated by LKB1-mediated phosphorylation. The SIK1 antibody is commonly used to investigate glucose metabolism, circadian rhythm, and stress adaptation in mammalian cells.

SIK1 is encoded by the SIK1 gene located on human chromosome 21q22.3. The protein is approximately 78 kilodaltons and consists of an N-terminal kinase domain, an autoinhibitory sequence, and a C-terminal region rich in phosphorylation sites. SIK1 modulates transcription by phosphorylating CREB-regulated transcription coactivators (CRTCs), leading to their cytoplasmic retention and suppression of CREB-dependent gene expression.

The SIK1 antibody detects a strong 85 kilodalton band by western blot. Under stress or hormonal stimulation, SIK1 undergoes rapid induction and nuclear translocation. It acts as a feedback regulator controlling CREB activity, gluconeogenic gene expression, and circadian rhythm stability.

Functionally, SIK1 plays an important role in metabolic homeostasis. It regulates hepatic glucose output, lipid metabolism, and skeletal muscle adaptation to exercise. In the brain, SIK1 contributes to neuronal plasticity and sleep-wake regulation. Dysregulation of SIK1 expression or phosphorylation has been implicated in hypertension, metabolic syndrome, and mood disorders.

SIK1 is a key mediator of hormonal signaling via cAMP and glucocorticoids. It interacts with 14-3-3 proteins and phosphatases, allowing dynamic control of kinase activity in response to changing energy states. NSJ Bioreagents provides a validated SIK1 antibody optimized for its applications, supporting exploration of metabolic regulation, transcriptional control, and stress physiology.

Application Notes

Optimal dilution of the SIK1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human Snf1lk/SIK1 recombinant protein (Position: M1-Q783) was used as the immunogen for the SIK1 antibody.

Storage

After reconstitution, the SIK1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.