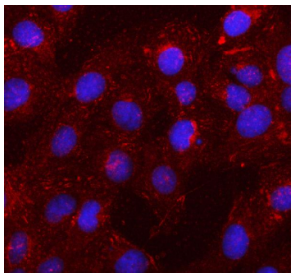
SSH1 Antibody / Slingshot protein phosphatase 1 (FY13149)

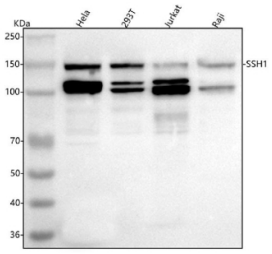
Catalog No.	Formulation	Size
FY13149	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

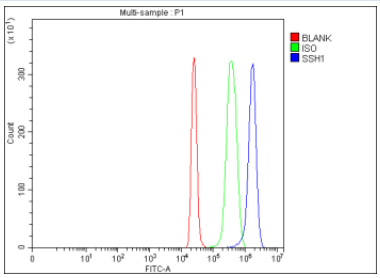
Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q8WYL5
Localization	Cytoplasm, cytoskeleton, nucleus
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry : 5ug/ml Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This SSH1 antibody is available for research use only.



Immunofluorescent staining of SSH1 using anti-SSH1 antibody (red). SSH1 was detected in an immunocytochemical section of U2OS 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-SSH1 antibody overnight at 4oC. Cy3 Conjugated Goat Anti-Rabbit IgG was 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 SSH1 using anti-SSH1 antibody. Lane 1: human Hela whole cell lysates, Lane 2: human 293T whole cell lysates, Lane 3: human Jurkat whole cell lysates, Lane 4: human Raji whole cell 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-SSH1 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 enhanced chemiluminescent. SSH1 antibody detects a doublet at ~110-120 kDa with an additional slower band at ~150 kDa across the indicated lysates. Although the predicted mass is ~116 kDa, Slingshot-1 typically shows phosphorylation-dependent mobility shifts, with hyperphosphorylated/14-3-3-bound forms migrating more slowly.



Flow Cytometry analysis of 293T cells using anti-SSH1 antibody. Overlay histogram showing 293T 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-SSH1 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 (Red line) was also used as a control.

Description

SSH1 antibody detects Slingshot protein phosphatase 1, a serine/threonine phosphatase that regulates actin filament dynamics by dephosphorylating cofilin. The UniProt recommended name is Slingshot protein phosphatase 1 (SSH1). This cytoplasmic enzyme is crucial for actin cytoskeleton remodeling during cell motility, adhesion, and morphogenesis.

Functionally, SSH1 antibody identifies a 1,047-amino-acid phosphatase that activates cofilin by removing inhibitory phosphate groups at serine 3. SSH1 operates downstream of Rho family GTPases and is controlled by 14-3-3 proteins, oxidative signals, and phosphorylation. It promotes lamellipodia formation and cytoskeletal reorganization during migration and neuronal outgrowth.

The SSH1 gene is located on chromosome 12q24.13 and is expressed in brain, muscle, and epithelial tissues. SSH1 integrates signals from LIM kinase and Rac/Cdc42 pathways to coordinate actin turnover and filament severing. Through cofilin activation, SSH1 drives rapid actin recycling necessary for directional movement and cell shape maintenance.

Pathologically, altered SSH1 activity contributes to cancer metastasis, neurological disorders, and cardiac hypertrophy. Dysregulated actin remodeling via SSH1-cofilin imbalance leads to defective migration and cytoskeletal instability. Research using SSH1 antibody supports studies in cytoskeletal dynamics, phosphatase signaling, and cell motility.

SSH1 antibody is validated for western blotting, immunofluorescence, and immunohistochemistry to detect actin-regulating phosphatases. NSJ Bioreagents provides SSH1 antibody reagents optimized for studies in cell migration, cytoskeletal remodeling, and signal transduction.

Structurally, Slingshot protein phosphatase 1 contains an N-terminal cofilin-binding region and a catalytic domain related to the dual-specificity phosphatase family. This antibody aids in analyzing SSH1's control over actin filament turnover and cellular movement.

Application Notes

Optimal dilution of the SSH1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human SSH1 recombinant protein (Position: E489-Y921) was used as the immunogen for the SSH1 antibody.

Storage

After reconstitution, the SSH1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.