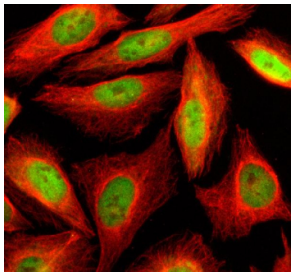
SLF2 Antibody / SMC5-SMC6 complex localization factor protein 2 (FY12390)

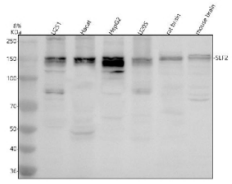
Catalog No.	Formulation	Size
FY12390	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

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	Q8IX21
Localization	Nuclear
Applications	Western Blot: 0.25-0.5ug/ml Immunocytochemistry/Immunofluorescence: 5ug/ml ELISA: 0.1-0.5ug/ml
Limitations	This SLF2 antibody is available for research use only.



Immunofluorescent staining of SLF2 using anti-SLF2 antibody (green) and anti-Beta Tubulin antibody (red). SLF2 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-SLF2 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. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of SLF2 using anti-SLF2 antibody. Electrophoresis was performed on a 8% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human U251 whole cell lysates, Lane 2: human Hacat whole cell lysates, Lane 3: human HepG2 whole cell lysates, Lane 4: human U2OS whole cell lysates, Lane 5: rat brain tissue lysates, Lane 6: mouse brain 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-SLF2 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. SLF2 (~132 kDa predicted) was detected as a doublet near ~150 kDa, consistent with the phosphorylated and isoform-specific forms reported in the DNA damage response literature.

Description

The SLF2 antibody targets SMC5-SMC6 complex localization factor 2, a nuclear protein encoded by the SLF2 gene that plays an essential role in DNA replication and repair. Also known as FAM178A, this protein helps recruit the SMC5/6 complex to chromatin following DNA damage, thereby promoting genome stability and replication fork recovery. SMC5-SMC6 complex localization factor 2 ensures proper DNA repair and cell cycle progression under genotoxic stress. The SLF2 antibody provides researchers with a precise tool to study DNA damage response pathways and chromosomal maintenance mechanisms.

SMC5-SMC6 complex localization factor 2 operates in coordination with its partner SLF1 to anchor the SMC5/6 complex at damaged replication forks. This localization facilitates homologous recombination repair and prevents collapse of stalled forks. The SLF2 antibody enables visualization of this critical repair factor in nuclear extracts and fixed cells, supporting detailed analysis of DNA repair kinetics and checkpoint activation. Its expression increases during replication stress and following exposure to DNA-damaging agents such as UV or ionizing radiation.

Disruption of SLF2 function compromises genomic integrity, leading to accumulation of DNA breaks, chromosomal abnormalities, and replication defects. Such genomic instability is a hallmark of cancer and aging. The SLF2 antibody aids in assessing how loss of SMC5-SMC6 recruitment affects DNA repair fidelity and cellular survival. In experimental models, depletion of SMC5-SMC6 complex localization factor 2 sensitizes cells to replication inhibitors, emphasizing its protective role during S phase.

Beyond replication stress response, SMC5-SMC6 complex localization factor 2 participates in maintaining telomere integrity and regulating chromatin compaction. The SLF2 antibody can be used to explore these broader nuclear processes, providing insight into how SMC5/6 and associated proteins orchestrate chromosomal architecture. Altered SLF2 expression has been implicated in tumorigenesis and therapy resistance, highlighting its relevance in cancer biology.

The SLF2 antibody performs effectively in western blotting, immunofluorescence, and immunohistochemistry, showing strong nuclear localization consistent with its DNA repair function. NSJ Bioreagents provides this antibody as a validated reagent with reliable specificity for chromatin and genome stability research. By enabling detailed examination of SMC5-SMC6 complex localization factor 2, the SLF2 antibody supports studies into DNA repair mechanisms, replication dynamics, and cellular responses to genomic stress.

Application Notes

Optimal dilution of the SLF2 antibody should be determined by the researcher.

Immunogen

E.coli-derived human SLF2 recombinant protein (Position: E90-N1157) was used as the immunogen for the SLF2

antibody.

Storage

After reconstitution, the SLF2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Copyright © NSJ Bioreagents. All rights reserved.