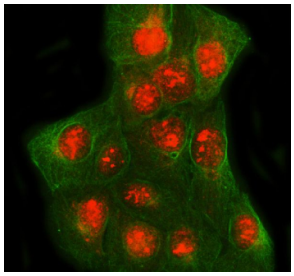
SPIDR Antibody / Scaffold protein involved in DNA repair (FY12783)

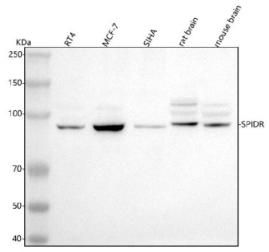
Catalog No.	Formulation	Size
FY12783	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

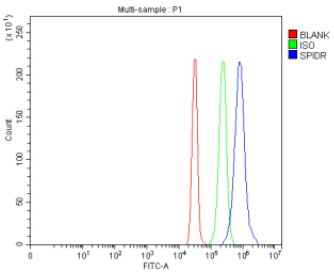
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q14159
Localization	Nucleus
Applications	ELISA : 0.1-0.5ug/ml Immunofluorescence : 5ug/ml Immunocytochemistry : 5ug/ml Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells
Limitations	This SPIDR antibody is available for research use only.



Immunofluorescent staining of SPIDR using anti-SPIDR antibody (red) and anti-Beta Tubulin antibody (green). SPIDR was detected in immunocytochemical section of U2OS cell. 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-SPIDR antibody and mouse anti-Beta Tubulin antibody overnight at 4oC. Cy3 Conjugated Goat Anti-Rabbit IgG and FITC 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 SPIDR using anti-SPIDR antibody. Lane 1: human RT4 whole cell lysates, Lane 2: human MCF-7 whole cell lysates, Lane 3: human SIHA whole cell lysates, Lane 4: rat brain tissue lysates, Lane 5: 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-SPIDR 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. A predominant band is observed at ~95 kDa with additional higher-migrating species, particularly in rat and mouse brain, consistent with reported phosphorylation and other post-translationally modified forms relative to the ~100 kDa calculated mass.



Flow Cytometry analysis of SiHa cells using anti-SPIDR antibody. Overlay histogram showing SiHa 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-SPIDR 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

SPIDR antibody detects Scaffold protein involved in DNA repair (also known as KIAA0146), a nuclear adaptor protein that coordinates homologous recombination and DNA double-strand break repair. Encoded by the SPIDR gene on chromosome 8q24.3, this protein functions as a scaffold linking key repair enzymes including RAD51, BRCA2, and RPA to the DNA damage response machinery. SPIDR facilitates the assembly of repair complexes at damaged DNA sites and promotes strand invasion and exchange during homologous recombination.

SPIDR contains multiple interaction domains, including coiled-coil regions and binding motifs that mediate association with RAD51 paralogs and BRCA2. Following DNA damage, SPIDR localizes to nuclear foci corresponding to double-strand break sites, where it promotes RAD51 filament formation and repair fidelity. By stabilizing repair intermediates, SPIDR ensures proper resolution of recombination events and maintenance of genomic stability. Depletion of SPIDR impairs DNA repair efficiency and increases chromosomal aberrations, underscoring its importance in genome maintenance.

The SPIDR antibody is used in DNA repair, cancer, and cell cycle research to analyze homologous recombination pathways and genomic stability. Western blot analysis identifies a 90 kilodalton band corresponding to SPIDR, while immunofluorescence shows punctate nuclear foci following genotoxic stress. This antibody enables researchers to track DNA repair factor recruitment and assess homologous recombination efficiency.

Defects in SPIDR expression or localization are associated with hypersensitivity to DNA-damaging agents and increased genomic instability, contributing to cancer susceptibility. SPIDR also cooperates with checkpoint proteins such as ATR and CHK1 to coordinate DNA repair with replication stress responses. The SPIDR antibody supports these investigations by providing specific detection in western blotting, flow cytometry, and immunofluorescence applications. NSJ Bioreagents validates this antibody for use in research on DNA repair dynamics, chromatin remodeling, and tumor suppressor pathways.

Application Notes

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

Immunogen

E.coli-derived human SPIDR recombinant protein (Position: E273-E904) was used as the immunogen for the SPIDR antibody.

Storage

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