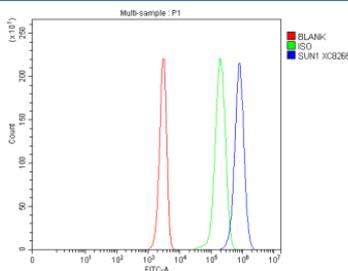


SUN1 Antibody / Sad1/UNC-84 domain-containing protein 1 (FY12319)

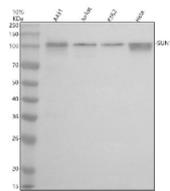
Catalog No.	Formulation	Size
FY12319	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

[Bulk quote request](#)

Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
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 Na ₂ HPO ₄ .
UniProt	O94901
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This SUN1 antibody is available for research use only.



Flow Cytometry analysis of Jurkat cells using anti-SUN1 antibody. Overlay histogram showing human 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-SUN1 antibody (1 ug/million cells) for 30 min at 20°C. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20°C. 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.



Western blot analysis of SUN1 using anti-SUN1 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 K562 whole cell lysates, Lane 4: human HeLa 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-SUN1 antibody at 0.5 ug/ml overnight at 4°C, 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 SUN1 is ~87 kDa with multiple smaller and one larger isoform. A ~100 kDa band for SUN1 is consistent with published literature. It most likely reflects a post-translationally modified or longer isoform of SUN1 rather than a detection error. Multiple studies report similar upward shifts and multiple SUN1 bands in mammalian cell lysates.

Description

SUN1 antibody detects Sad1/UNC-84 domain-containing protein 1, encoded by the SUN1 gene on chromosome 7p22.3. SUN1 antibody is widely used in nuclear envelope, cytoskeletal, and cell structure research. SUN1 is an inner nuclear membrane protein that interacts with KASH domain proteins at the outer nuclear membrane to form the LINC (linker of nucleoskeleton and cytoskeleton) complex. This complex physically connects the nuclear interior with the cytoskeleton, enabling nuclear positioning, mechanotransduction, and chromosome dynamics.

Structurally, SUN1 is a ~90 kDa type II transmembrane protein with a conserved SUN domain that extends into the perinuclear space. It anchors to the nuclear lamina and interacts with chromatin-associated proteins inside the nucleus. SUN1 can heterodimerize with SUN2 to form diverse LINC complexes. Expression is ubiquitous, with enrichment in proliferating and differentiating cells.

Functionally, SUN1 regulates nuclear migration, anchorage, and mechanotransduction. It is essential for meiotic chromosome pairing, telomere tethering, and centrosome-nucleus coupling. SUN1 also contributes to DNA repair and genomic stability. Researchers use SUN1 antibody to study nuclear organization, mechanobiology, and chromosome dynamics.

Clinically, SUN1 mutations and dysregulation are associated with laminopathies, muscular dystrophies, and neurodevelopmental disorders. Disruption of the LINC complex impairs nuclear positioning and mechanosignaling, leading to disease. SUN1 also contributes to cancer progression by altering nuclear morphology and chromatin organization. NSJ Bioreagents provides SUN1 antibody for research in nuclear architecture, mechanobiology, and disease mechanisms.

Experimentally, SUN1 antibody is used in western blotting to detect the ~90 kDa protein, in immunofluorescence microscopy to visualize nuclear envelope localization, and in immunohistochemistry to study tissue-specific expression. Co-immunoprecipitation with SUN1 antibody identifies binding partners within the LINC complex.

Application Notes

Optimal dilution of the SUN1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human SUN1 recombinant protein (Position: D32-E619) was used as the immunogen for the SUN1 antibody.

Storage

After reconstitution, the SUN1 antibody can be stored for up to one month at 4°C. For long-term, aliquot and store at -20°C. Avoid repeated freezing and thawing.