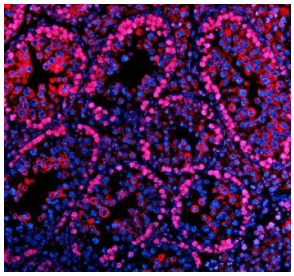
PARP11 Antibody / Poly ADP-ribose polymerase 11 (FY12512)

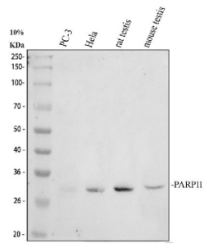
Catalog No.	Formulation	Size
FY12512	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

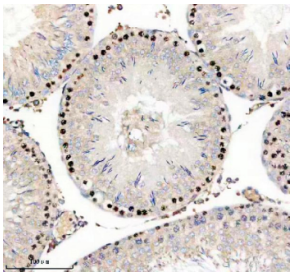
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q9NR21
Localization	Nuclear
Applications	Western Blot: 0.25-0.5ug/ml Immunohistochemistry: 2-5ug/ml Immunofluorescence: 5ug/ml Immunocytochemistry/Immunofluorescence: 5ug/ml Flow cytometry: 1-3ug/million cells
Limitations	This PARP11 antibody is available for research use only.



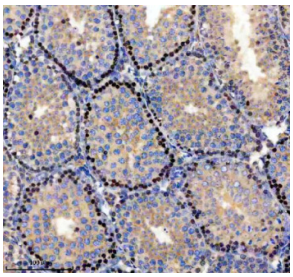
Immunofluorescent staining of PARP11 using anti-PARP11 antibody (red). PARP11 was detected in a paraffin-embedded section of mouse testis tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 5 ug/ml rabbit anti-PARP11 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.



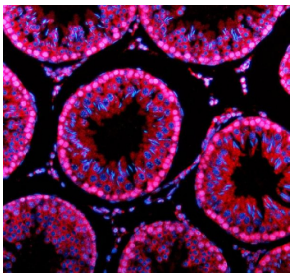
Western blot analysis of PARP11 using anti-PARP11 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human PC-3 whole cell lysates, Lane 2: human Hela whole cell lysates, Lane 3: rat testis tissue lysates, Lane 4: mouse testis 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-PARP11 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. PARP11 (~40 kDa predicted) was detected as a band at ~30-33 kDa, consistent with previously reported electrophoretic migration of endogenous PARP11 caused by N-terminal processing and atypical SDS-PAGE mobility.



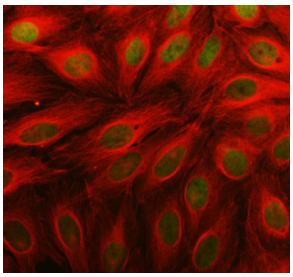
Immunohistochemical staining of PARP11 using anti-PARP11 antibody. PARP11 was detected in a paraffin-embedded section of rat testis tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-PARP11 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



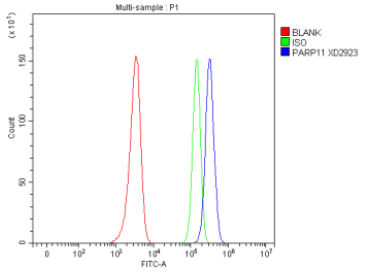
Immunohistochemical staining of PARP11 using anti-PARP11 antibody. PARP11 was detected in a paraffin-embedded section of mouse testis tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-PARP11 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



Immunofluorescent staining of PARP11 using anti-PARP11 antibody (red). PARP11 was detected in a paraffin-embedded section of rat testis tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 5 ug/ml rabbit anti-PARP11 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.



Immunofluorescent staining of PARP11 using anti-PARP11 antibody (green) and anti-Alpha Tubulin antibody (red). PARP11 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-PARP11 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.



Flow Cytometry analysis of HEL cells using anti-PARP11 antibody. Overlay histogram showing HEL 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-PARP11 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

PARP11 antibody detects Poly(ADP-ribose) polymerase 11, a mono-ADP-ribosyltransferase enzyme that modifies proteins through ADP-ribosylation, influencing their stability, localization, and activity. PARP11 belongs to the PARP family but, unlike canonical poly(ADP-ribose) polymerases, primarily catalyzes mono-ADP-ribose addition. This post-translational modification regulates processes such as nuclear transport, innate immunity, and antiviral defense. The PARP11 antibody is used to study protein modification signaling, interferon responses, and nuclear envelope dynamics.

PARP11 is encoded by the PARP11 gene on human chromosome 12q13.11. The protein is approximately 39 kilodaltons and characterized by an N-terminal WWE domain, which mediates protein-protein interactions, and a C-terminal catalytic domain containing the conserved histidine-tyrosine-glutamate motif typical of ADP-ribosyltransferases. PARP11 localizes predominantly to the nuclear envelope and cytoplasmic membrane-associated compartments.

The PARP11 antibody detects a 39 kilodalton band by western blot and shows nuclear rim and cytoplasmic punctate staining patterns in immunofluorescence microscopy. PARP11 functions in antiviral defense by ADP-ribosylating host and viral proteins involved in interferon signaling, modulating downstream immune activation. It targets nuclear pore complex components and transport receptors, thereby altering nucleocytoplasmic trafficking during stress or infection. Studies have demonstrated that PARP11 negatively regulates type I interferon responses by promoting degradation of TBK1 and IFNAR1, helping fine-tune innate immune activity.

PARP11 also influences ubiquitin-proteasome and SUMOylation pathways through crosstalk with other post-translational modifiers. It plays a role in maintaining nuclear envelope structure and in mitotic progression. Overexpression of PARP11 has been associated with enhanced cell survival under stress, whereas its inhibition sensitizes cells to DNA damage and viral infection. Structural studies suggest that PARP11 recognizes unique NAD+ analogs distinct from other PARP family members, indicating potential for selective drug targeting.

Emerging evidence links PARP11 to cancer, viral replication, and neurodegenerative processes. In hepatocellular and colorectal carcinomas, PARP11 overexpression correlates with immune evasion phenotypes and resistance to interferon-based therapies. In neurons, altered ADP-ribosylation by PARP11 may affect axonal transport or synaptic signaling. NSJ Bioreagents provides a validated PARP11 antibody optimized for western blot, immunofluorescence, and nuclear envelope research, enabling detailed analysis of mono-ADP-ribosylation pathways and immune modulation mechanisms.

Application Notes

Optimal dilution of the PARP11 antibody should be determined by the researcher.

Immunogen

A synthetic peptide corresponding to a sequence in the middle region of human PARP11 was used as the immunogen for the PARP11 antibody.

Storage

After reconstitution, the PARP11 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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