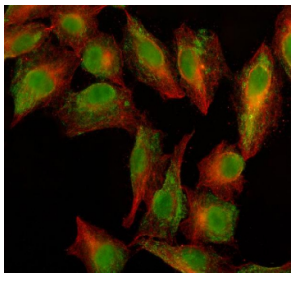
PARG Antibody / Poly(ADP-ribose) glycohydrolase (FY12283)

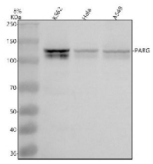
Catalog No.	Formulation	Size
FY12283	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

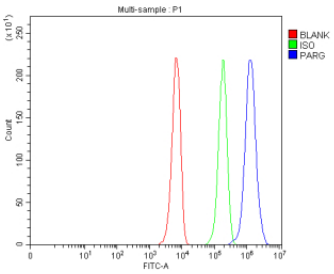
Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q86W56
Localization	Nuclear, cytoplasmic
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry/Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This PARG antibody is available for research use only.



Immunofluorescent staining of PARG using anti-PARG antibody (green) and anti-Beta Tubulin antibody (red). PARG was detected in an immunocytochemical section of 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-PARG 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 PARG using anti-PARG antibody. Electrophoresis was performed on a 8% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human K562 whole cell lysates, Lane 2: human Hela whole cell lysates, Lane 3: human 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-PARG 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. The expected molecular weight of PARG is 55-111 kDa (multiple isoforms). The doublet likely reflects closely related splice variants or post-translational modifications of PARG.



Flow Cytometry analysis of K562 cells using anti-PARG antibody. Overlay histogram showing K562 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-PARG 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

PARG antibody detects Poly(ADP-ribose) glycohydrolase, encoded by the PARG gene on chromosome 10q11.23. PARG antibody is widely used in DNA damage response, chromatin remodeling, and cancer biology research. PARG is the main enzyme responsible for degrading poly(ADP-ribose) chains, which are synthesized by PARP family enzymes in response to DNA breaks and stress signals. By hydrolyzing poly(ADP-ribose), PARG resets chromatin state and restores protein activity following PARP-mediated modifications.

Structurally, PARG is a ~110 kDa enzyme with a macrodomain-containing catalytic region. It cleaves glycosidic ribose-ribose bonds in poly(ADP-ribose) chains, generating free ADP-ribose units. PARG localizes predominantly to the nucleus but is also found in cytoplasm and mitochondria, reflecting diverse roles in cellular stress responses. Alternative isoforms, including shorter forms, may localize differently and regulate specific processes.

Functionally, PARG counteracts PARP activity to maintain balance in ADP-ribosylation signaling. After DNA damage, PARP1 rapidly polymerizes ADP-ribose chains that recruit DNA repair factors. PARG then degrades these chains to terminate signaling, recycle NAD+, and permit chromatin resetting. Dysregulation of PARG disrupts repair efficiency and genomic stability. Researchers use PARG antibody to study DNA repair, chromatin biology, and PARP inhibitor responses.

Clinically, PARG is relevant in cancer therapy because PARP inhibitors exploit defective homologous recombination repair in tumors. PARG inhibition further sensitizes cancer cells to DNA damage, making it a therapeutic target. PARG dysregulation has also been implicated in neurodegeneration, where abnormal ADP-ribose metabolism contributes to cell death. NSJ Bioreagents supplies PARG antibody for research in DNA repair, cancer biology, and therapeutic development.

Experimentally, PARG antibody is applied in western blotting to detect the ~110 kDa protein, in immunohistochemistry to study nuclear expression, and in enzymatic assays to monitor ADP-ribose metabolism. Co-immunoprecipitation with PARG antibody identifies complexes with PARP and DNA repair proteins.

Application Notes

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

Immunogen

E.coli-derived human PARG recombinant protein (Position: D27-R854) was used as the immunogen for the PARG antibody.

Storage

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