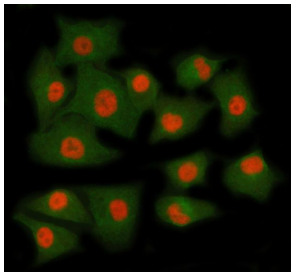
RING1 Antibody / Polycomb complex protein RING1 (FY13095)

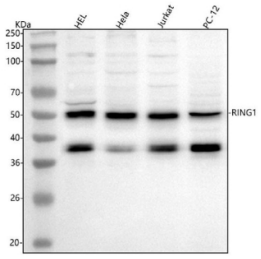
Catalog No.	Formulation	Size
FY13095	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

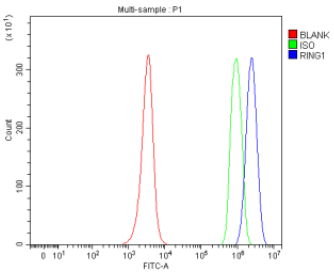
Availability	1-2 days
Species Reactivity	Human, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q06587
Localization	Nuclear
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry : 5ug/ml Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This RING1 antibody is available for research use only.



Immunofluorescent staining of RING1 using anti-RING1 antibody (red) and anti-Beta Tubulin antibody (green). RING1 was detected in immunocytochemical section of 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-RING1 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 RING1 using anti-RING1 antibody. Lane 1: human HEL whole cell lysates, Lane 2: human Hela whole cell lysates, Lane 3: human Jurkat whole cell lysates, Lane 4: rat PC-12 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-RING1 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. Although RING1A is ~40-43 kDa by sequence, the antibody detects two major species: a ~50 kDa band and a ~38-40 kDa band. The upper band likely represents mono-ubiquitylated RING1A, while the lower band corresponds to the unmodified/shorter form.



Flow Cytometry analysis of human JK cells using anti-RING1 antibody. Overlay histogram showing JK 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-RING1 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

RING1 antibody detects E3 ubiquitin-protein ligase RING1, a chromatin-associated enzyme that catalyzes histone ubiquitination and transcriptional repression. The UniProt recommended name is E3 ubiquitin-protein ligase RING1 (RING1). This enzyme is a key component of the Polycomb repressive complex 1 (PRC1), which regulates gene silencing during development and differentiation.

Functionally, RING1 antibody identifies a 406-amino-acid nuclear enzyme containing a RING finger domain that mediates E3 ubiquitin ligase activity. RING1 monoubiquitinates histone H2A at lysine 119, a hallmark modification that represses transcription of developmental genes. It forms a heterodimer with RING1B or BMI1, together constituting the catalytic core of PRC1. This activity ensures stable repression of genes controlling cell fate and pluripotency.

The RING1 gene is located on chromosome 6p22.3 and is broadly expressed, with high levels in embryonic and stem cell populations. RING1 functions as an epigenetic regulator, linking chromatin compaction to long-term gene silencing. Its activity is modulated by PRC2-mediated H3K27 methylation, which recruits PRC1 to specific genomic loci.

Pathologically, deregulated RING1 expression contributes to developmental abnormalities and cancer. Overexpression of PRC1 components, including RING1, enhances chromatin repression and promotes oncogenic transformation. Conversely, loss of RING1 impairs differentiation and disrupts gene silencing. Research using RING1 antibody aids studies in epigenetic regulation, chromatin structure, and stem cell biology.

RING1 antibody is suitable for western blotting, immunoprecipitation, and chromatin immunoprecipitation to detect PRC1 complex components and histone modifications. NSJ Bioreagents supplies RING1 antibody reagents optimized for studies of gene silencing, ubiquitination, and developmental regulation.

Structurally, RING1 possesses an N-terminal RING finger motif coordinating two zinc ions essential for ubiquitin transfer. It interacts with E2 ubiquitin-conjugating enzymes to catalyze substrate modification. This antibody enables analysis of RING1's central role in chromatin remodeling and transcriptional repression through histone ubiquitination.

Application Notes

Optimal dilution of the RING1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human RING1 recombinant protein (Position: N6-K387) was used as the immunogen for the RING1 antibody.

Storage

After reconstitution, the RING1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.