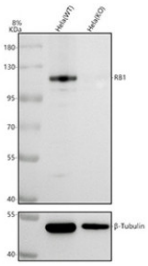
RB1 Polyclonal Antibody / Retinoblastoma (FY12555)

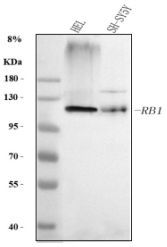
Catalog No.	Formulation	Size
FY12555	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

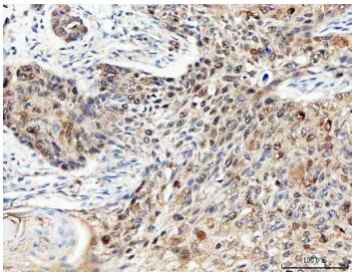
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P06400
Localization	Nuclear
Applications	Western Blot: 0.25-0.5ug/ml Immunohistochemistry: 2-5ug/ml Immunocytochemistry/Immunofluorescence: 5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This RB1 Polyclonal Antibody is available for research use only.



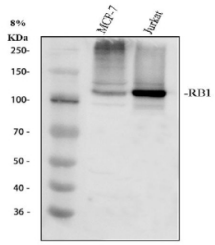
RB1 Polyclonal Antibody WB with Knockout Validation in HeLa Cells. Western blot analysis of wild-type (WT) and RB1 knockout (KO) human HeLa whole cell lysates using the Retinoblastoma Polyclonal Antibody at 0.5 ug/ml. Samples containing 30 ug of total protein per lane were separated by 8% SDS-PAGE under reducing conditions. A prominent band at approximately 106-110 kDa is detected in WT cells but is absent in RB1 KO cells, supporting target-specific detection. The observed molecular weight is consistent with the calculated molecular weight of RB1. Beta-tubulin was used as a loading control and shows comparable signal in both samples.



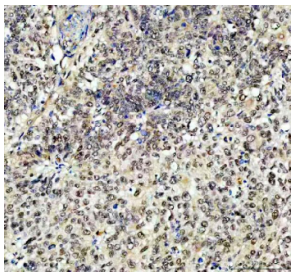
RB1 Polyclonal Antibody WB, Western blot analysis of RB1 using anti-RB1 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human HEL whole cell lysates, Lane 2: human SH-SY5Y whole cell lysates. After electrophoresis, proteins 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-RB1 antibody at 1:1000 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. RB1 (~106 kDa predicted) was detected at ~110-120 kDa, consistent with the hyperphosphorylated form of the retinoblastoma protein that exhibits slower SDS-PAGE migration due to extensive phosphorylation and its acidic C-terminal region



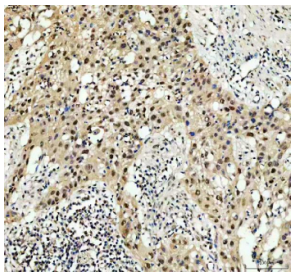
RB1 Polyclonal Antibody IHC. Immunohistochemical staining of RB1 using anti-RB1 antibody. RB1 was detected in a paraffin-embedded section of human esophageal squamous carcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1:100 rabbit anti-RB1 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.



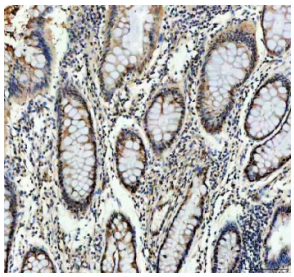
Western blot analysis of RB1 using anti-RB1 antibody. Electrophoresis was performed on a 8% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human MCF-7 whole cell lysates, Lane 2: human Jurkat whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose 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-RB1 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. RB1 (~106 kDa predicted) was detected at ~110-120 kDa, consistent with the hyperphosphorylated form of the retinoblastoma protein that exhibits slower SDS-PAGE migration due to extensive phosphorylation and its acidic C-terminal region



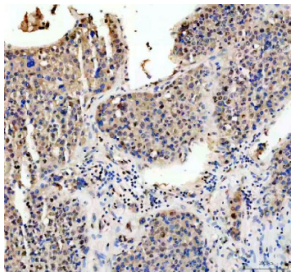
Immunohistochemical staining of RB1 using anti-RB1 antibody. RB1 was detected in a paraffin-embedded section of human cervical cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-RB1 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.



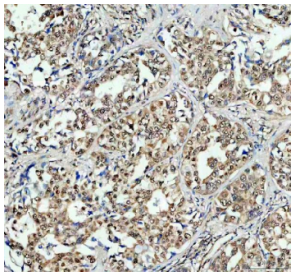
Immunohistochemical staining of RB1 using anti-RB1 antibody. RB1 was detected in a paraffin-embedded section of human bladder cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-RB1 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.



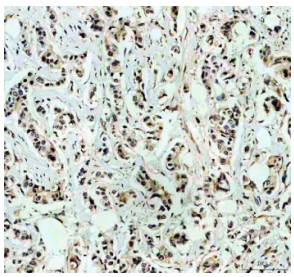
Immunohistochemical staining of RB1 using anti-RB1 antibody. RB1 was detected in a paraffin-embedded section of human colon cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-RB1 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.



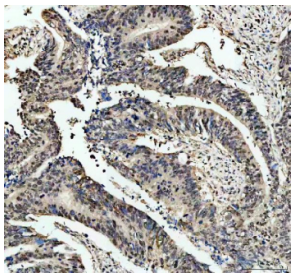
Immunohistochemical staining of RB1 using anti-RB1 antibody. RB1 was detected in a paraffin-embedded section of human liver cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-RB1 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.



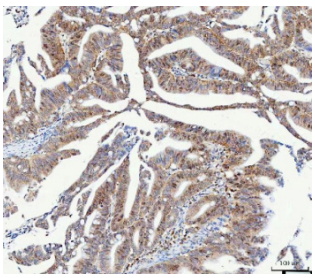
Immunohistochemical staining of RB1 using anti-RB1 antibody. RB1 was detected in a paraffin-embedded section of human lung cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-RB1 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.



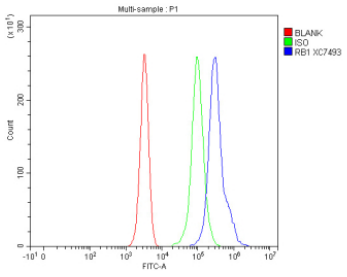
Immunohistochemical staining of RB1 using anti-RB1 antibody. RB1 was detected in a paraffin-embedded section of human breast cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-RB1 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.



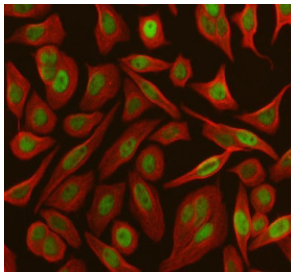
Immunohistochemical staining of RB1 using anti-RB1 antibody. RB1 was detected in a paraffin-embedded section of human colon cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-RB1 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 RB1 using anti-RB1 antibody. RB1 was detected in a paraffin-embedded section of human colorectal adenocarcinoma 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 1:100 rabbit anti-RB1 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.



RB1 Polyclonal Antibody FACS. Flow cytometry analysis of fixed and permeabilized human Jurkat cells with RB1 antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= RB1 antibody.



RB1 Polyclonal Antibody IF. Immunofluorescent staining of FFPE human A549 cells with RB1 antibody (green) and Beta Tubulin mAb (red). HIER: steam section in pH6 citrate buffer for 20 min.

Description

RB1 Polyclonal Antibody / Retinoblastoma Polyclonal Antibody recognizes retinoblastoma protein (pRb), a tumor suppressor that coordinates cell cycle progression with cellular growth signals and differentiation programs. Encoded by the RB1 gene, pRb belongs to the pocket protein family, together with RBL1 (p107) and RBL2 (p130). These proteins contain conserved structural domains that mediate interactions with transcription factors and chromatin-associated regulatory proteins. RB1 is particularly important for controlling the transition from G1 to S phase, ensuring that DNA replication occurs under appropriate cellular conditions.

The growth-suppressive activity of RB1 is closely associated with its ability to bind E2F transcription factors. In its active state, RB1 restricts the expression of genes required for DNA synthesis, nucleotide metabolism, and cell cycle progression. Mitogenic stimulation activates cyclin-dependent kinases, which phosphorylate RB1 and alter its interactions with E2F proteins. This permits transcriptional activation of genes involved in S-phase entry. Phosphorylation at multiple regulatory sites contributes to the dynamic control of RB1 activity, making its functional state dependent on cellular signaling and cell cycle position.

RB1 also participates in processes extending beyond proliferation control. Its interactions with chromatin remodeling complexes, histone-modifying enzymes, and transcriptional regulators contribute to cellular differentiation and the maintenance of specialized cell identities. RB1 has additional roles in senescence, chromosome stability, and responses to DNA damage. These activities connect cell cycle regulation with broader mechanisms that preserve tissue organization and genomic integrity.

Loss of RB1 function is a defining molecular event in hereditary retinoblastoma and occurs in several other malignancies, including osteosarcoma and small cell lung cancer. The RB pathway can also be disrupted through alterations in cyclins, cyclin-dependent kinases, and CDK inhibitors without direct mutation of RB1. Such changes may permit inappropriate E2F activation and uncontrolled proliferation. Because RB1 activity depends on phosphorylation and protein interactions, its abundance alone does not establish whether the pathway remains functional. NSJ Bioreagents offers this RB1 Polyclonal Antibody for investigating retinoblastoma protein regulation, cell cycle control, and the molecular consequences of tumor suppressor pathway disruption.

Explore our Retinoblastoma Antibody FCD-18, a rabbit monoclonal antibody targeting RB1, for an additional option with Western blot, immunohistochemistry, and immunofluorescence validation.

Application Notes

Optimal dilution of the RB1 Polyclonal Antibody should be determined by the researcher.

Immunogen

E.coli-derived human Retinoblastoma recombinant protein (Position: E40-D921) was used as the immunogen for the RB1 Polyclonal Antibody.

Storage

After reconstitution, the RB1 Polyclonal Antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

Retinoblastoma-associated protein antibody, RB transcriptional corepressor 1 antibody, p105-Rb antibody, Retinoblastoma susceptibility protein antibody, RB1 tumor suppressor antibody

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