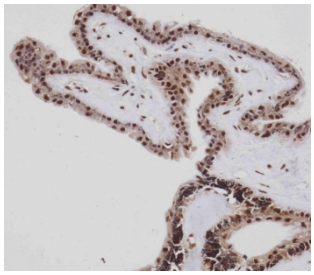
pRb Antibody / RB1 Protein Antibody (F54327)

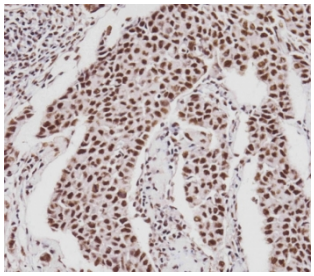
Catalog No.	Formulation	Size
F54327-0.2ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.2 ml
F54327-0.05ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.05 ml

Bulk quote request

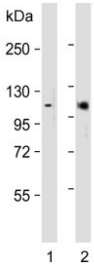
Species Reactivity	Human, Mouse, Rat
Format	Purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity purified
UniProt	P06400
Localization	Nuclear
Applications	Immunohistochemistry (FFPE): 1:25 Western blot: 1:500-1:2000
Limitations	This pRb Antibody / RB1 Protein Antibody is available for research use only.



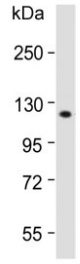
pRb Antibody IHC in Human Retina. Immunohistochemical staining of FFPE human retina tissue using the RB1 Protein Antibody. Prominent brown DAB staining is observed in the nuclei of epithelial cells lining the folded tissue structures, with comparatively limited staining in the surrounding connective tissue. Heat-induced epitope retrieval was performed by steaming in EDTA buffer (pH 9.0) for 20 minutes, followed by cooling before staining.



IHC testing of FFPE human breast cancer with Retinoblastoma antibody. HIER: steam section in pH9 EDTA for 20 min and allow to cool prior to staining.



pRb Antibody WB in Mouse and Rat Eyeball Lysates. Western blot analysis of mouse eyeball (lane 1) and rat eyeball (lane 2) lysates using the RB1 Protein Antibody. A distinct band is detected at approximately 110 kDa in both samples, consistent with the predicted molecular weight of retinoblastoma protein (RB1).



Western blot testing of human HeLa lysate with Retinoblastoma antibody. Predicted molecular weight ~110 kDa.

Description

pRb Antibody / RB1 Protein Antibody recognizes retinoblastoma protein (pRb), a nuclear tumor suppressor that regulates cell cycle progression and helps maintain the balance between cellular proliferation and growth arrest. Encoded by the RB1 gene, pRb is a member of the pocket protein family, which also includes RBL1 (p107) and RBL2 (p130). These proteins share conserved structural domains that facilitate interactions with transcription factors and other regulatory proteins. The retinoblastoma pathway is particularly important during the G1 phase of the cell cycle, when cells integrate growth signals and determine whether to initiate DNA replication.

One of the best-characterized functions of pRb is its regulation of E2F transcription factors. In its growth-suppressive state, pRb binds certain E2F proteins and restricts the expression of genes required for DNA synthesis and S-phase progression. Growth-promoting signals activate cyclin-dependent kinases, including CDK4/6 and CDK2, which phosphorylate pRb and alter its interactions with E2F. These changes permit the activation of transcriptional programs necessary for cell cycle entry. The phosphorylation state of pRb is therefore an important determinant of its regulatory activity, although individual phosphorylation events can have distinct functional consequences.

Beyond cell cycle control, pRb contributes to cellular differentiation, senescence, and chromatin organization. Its interactions with histone-modifying enzymes and chromatin-associated regulatory complexes influence gene expression programs involved in establishing and maintaining specialized cellular identities. pRb also participates in mechanisms associated with chromosome stability and responses to DNA damage. These functions connect the retinoblastoma pathway with broader processes that preserve tissue organization and genomic integrity.

RB1 was originally identified through studies of hereditary retinoblastoma, in which inherited loss-of-function mutations increase susceptibility to retinal tumors. Somatic RB1 alterations are also found in several malignancies, including osteosarcoma and small cell lung cancer. In other cancers, retinoblastoma pathway activity may be disrupted through changes in cyclins, cyclin-dependent kinases, or CDK inhibitors. Because pRb function depends on phosphorylation, protein interactions, and cellular context, total protein expression does not necessarily indicate whether its growth-suppressive activity remains intact. NSJ Bioreagents offers this pRb Antibody for investigating retinoblastoma protein regulation, cell cycle signaling, and the molecular mechanisms underlying tumor suppressor dysfunction.

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

The stated application concentrations are suggested starting points. Titration of the pRb Antibody / RB1 Protein Antibody

may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A portion of amino acids 600-620 from the human protein was used as the immunogen for the pRb Antibody.

Storage

Aliquot the pRb Antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

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

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