


Anti-Rb antibody ab226979

[5 References](#) [4 Images](#)

Overview

Product name	Anti-Rb antibody
Description	Rabbit polyclonal to Rb
Host species	Rabbit
Tested applications	Suitable for: ICC/IF, WB, IP, IHC-P
Species reactivity	Reacts with: Human Predicted to work with: Mouse, Rat, Cow, Pig, Rhesus monkey 
Immunogen	Recombinant fragment within Human Rb (C terminal). The exact sequence is proprietary. Database link: P06400
Positive control	WB: A431 cell lysate. ICC/IF: MCF7 cells. IHC: Human colon carcinoma tissue. IP: HeLa whole cell lysate (ab150035).
General notes	<p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.00 Preservative: 0.025% Proclin 300 Constituents: 79% PBS, 20% Glycerol (glycerin, glycerine)
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab226979 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ICC/IF		Use at an assay dependent concentration.
WB		1/500 - 1/3000. Predicted molecular weight: 106 kDa.
IP		1/100 - 1/500.
IHC-P		1/100 - 1/1000.

Target

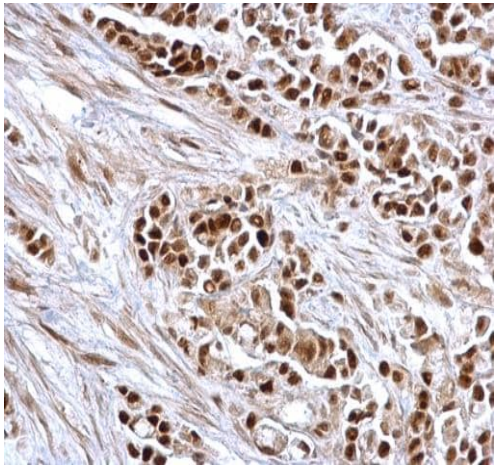
Function	Key regulator of entry into cell division that acts as a tumor suppressor. Promotes G0-G1 transition when phosphorylated by CDK3/cyclin-C. Acts as a transcription repressor of E2F1 target genes. The underphosphorylated, active form of RB1 interacts with E2F1 and represses its transcription activity, leading to cell cycle arrest. Directly involved in heterochromatin formation by maintaining overall chromatin structure and, in particular, that of constitutive heterochromatin by stabilizing histone methylation. Recruits and targets histone methyltransferases SUV39H1, KMT5B and KMT5C, leading to epigenetic transcriptional repression. Controls histone H4 'Lys-20' trimethylation. Inhibits the intrinsic kinase activity of TAF1. Mediates transcriptional repression by SMARCA4/BRG1 by recruiting a histone deacetylase (HDAC) complex to the c-FOS promoter. In resting neurons, transcription of the c-FOS promoter is inhibited by BRG1-dependent recruitment of a phospho-RB1-HDAC1 repressor complex. Upon calcium influx, RB1 is dephosphorylated by calcineurin, which leads to release of the repressor complex (By similarity). In case of viral infections, interactions with SV40 large T antigen, HPV E7 protein or adenovirus E1A protein induce the disassembly of RB1-E2F1 complex thereby disrupting RB1's activity.
Tissue specificity	Expressed in the retina.
Involvement in disease	Childhood cancer retinoblastoma Bladder cancer Osteogenic sarcoma
Sequence similarities	Belongs to the retinoblastoma protein (RB) family.
Domain	The Pocket domain binds to the threonine-phosphorylated domain C, thereby preventing interaction with heterodimeric E2F/DP transcription factor complexes.
Post-translational modifications	Phosphorylated by CDK6 and CDK4, and subsequently by CDK2 at Ser-567 in G1, thereby releasing E2F1 which is then able to activate cell growth. Dephosphorylated at the late M phase. SV40 large T antigen, HPV E7 and adenovirus E1A bind to the underphosphorylated, active form of pRb. Phosphorylation at Thr-821 and Thr-826 promotes interaction between the C-terminal domain C and the Pocket domain, and thereby inhibits interactions with heterodimeric E2F/DP transcription factor complexes. Dephosphorylated at Ser-795 by calcineurin upon calcium stimulation. CDK3/cyclin-C-mediated phosphorylation at Ser-807 and Ser-811 is required for G0-G1 transition. Phosphorylated by CDK1 and CDK2 upon TGFB1-mediated apoptosis. N-terminus is methylated by METTL11A/NTM1 (By similarity). Monomethylation at Lys-810 by SMYD2 enhances phosphorylation at Ser-807 and Ser-811, and promotes cell cycle progression. Monomethylation at Lys-860 by SMYD2 promotes interaction with L3MBTL1.

Acetylation at Lys-873 and Lys-874 regulates subcellular localization, at least during keratinocytes differentiation.

Cellular localization

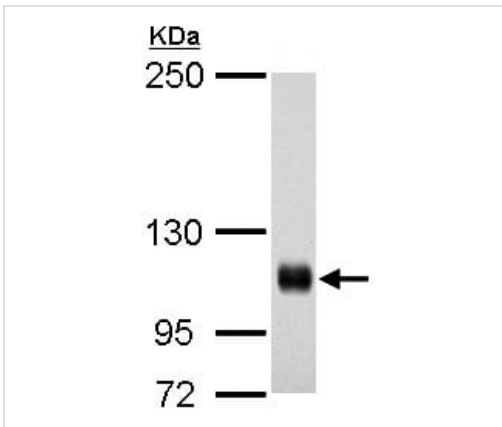
Nucleus.

Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rb antibody (ab226979)

Paraffin-embedded human colon carcinoma tissue stained for Rb using ab226979 at 1/500 dilution in immunohistochemical analysis.



Western blot - Anti-Rb antibody (ab226979)

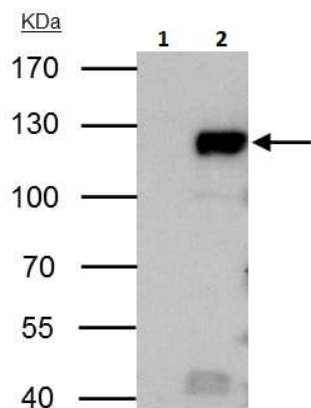
Anti-Rb antibody (ab226979) at 1/500 dilution + A431 (human epidermoid carcinoma cell line) whole cell lysate at 30 µg

Secondary

HRP-conjugated anti-rabbit IgG

Predicted band size: 106 kDa

5% SDS-PAGE gel.

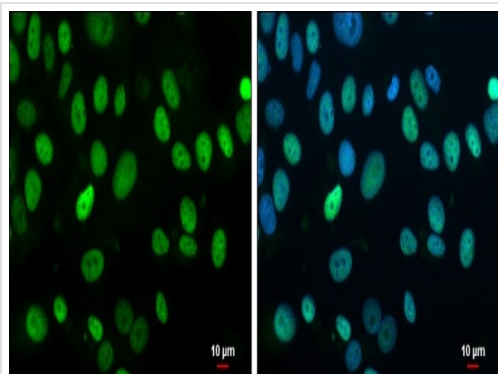


Immunoprecipitation - Anti-Rb antibody (ab226979)

Rb was immunoprecipitated from HeLa (human epithelial cell line from cervix adenocarcinoma) whole cell lysate with 4 µg of ab226979. Western blot was performed from the immunoprecipitate using ab226979 at 1/500 dilution.

Lane 1: Rabbit IgG instead of ab226979 in HeLa whole cell lysate.

Lane 2: ab226979 IP in HeLa whole cell lysate.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rb antibody (ab226979)

4% paraformaldehyde-fixed MCF7 (human breast adenocarcinoma cell line) cells stained for Rb using ab226979 at 1/500 dilution in ICC/IF. Nuclear Counterstain: Hoechst 33342 (blue).

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours

- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors