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RB1 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8575B

Product Information

Application	WB, IHC-P, FC, E
Primary Accession	P06400
Other Accession	P33568
Reactivity	Human
Predicted	Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB20715
Calculated MW	106159
Antigen Region	858-886

Additional Information

Gene ID	5925
Other Names	Retinoblastoma-associated protein, p105-Rb, pRb, Rb, pp110, RB1
Target/Specificity	This RB1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 858-886 amino acids from the C-terminal region of human RB1.
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	RB1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	RB1
Function	Tumor suppressor that is a key regulator of the G1/S transition of the cell cycle (PubMed:10499802). The hypophosphorylated form binds transcription

regulators of the E2F family, preventing transcription of E2F-responsive genes (PubMed:10499802). Both physically blocks E2Fs transactivating domain and recruits chromatin- modifying enzymes that actively repress transcription (PubMed:10499802). Cyclin and CDK-dependent phosphorylation of RB1 induces its dissociation from E2Fs, thereby activating transcription of E2F responsive genes and triggering entry into S phase (PubMed:10499802). RB1 also promotes the G0-G1 transition upon phosphorylation and activation by CDK3/cyclin-C (PubMed:15084261). 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).

Cellular Location

Nucleus. Cytoplasm {ECO:0000250|UniProtKB:P13405}. Note=During keratinocyte differentiation, acetylation by KAT2B/PCAF is required for nuclear localization (PubMed:20940255). Localizes to the cytoplasm when hyperphosphorylated (By similarity). {ECO:0000250|UniProtKB:P13405, ECO:0000269|PubMed:20940255}

Tissue Location

Expressed in the retina. Expressed in foreskin keratinocytes (at protein level) (PubMed:20940255)

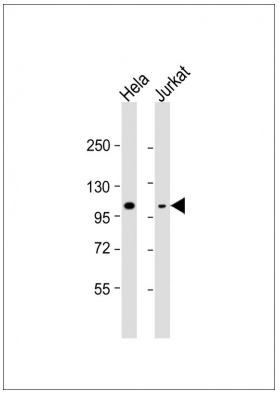
Background

RB1 is a negative regulator of the cell cycle and was the first tumor suppressor gene found. This protein also stabilizes constitutive heterochromatin to maintain the overall chromatin structure. The active, hypophosphorylated form of the protein binds transcription factor E2F1.

References

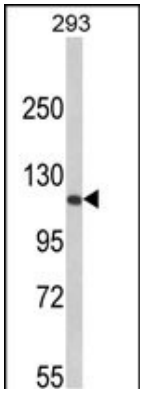
Connell-Crowley,L., et.al., Mol. Biol. Cell 8 (2), 287-301 (1997)
Kitagawa,M., et.al., EMBO J. 15 (24), 7060-7069 (1996)

Images

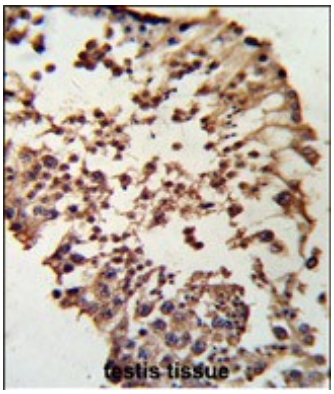


All lanes : Anti-RB1 Antibody (C-term) at 1:8000 dilution Lane 1: Hela whole cell lysate Lane 2: Jurkat whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 106 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

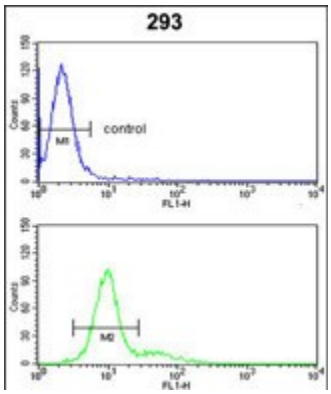
Western blot analysis of RB1 Antibody (C-term) (Cat.



#AP8575b) in 293 cell line lysates (35ug/lane). RB1 (arrow) was detected using the purified Pab.(2ug/ml)



Formalin-fixed and paraffin-embedded human testis tissue reacted with RB1 Antibody (C-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



RB1 Antibody (C-term) (Cat. #AP8575b) flow cytometric analysis of 293 cells (bottom histogram) compared to a negative control cell (top histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.