

# Rb Rabbit mAb

Catalog # AP76877

## Product Information

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<b>Application</b>	WB, FC, IP
<b>Primary Accession</b>	<a href="#">P06400</a>
<b>Reactivity</b>	Human
<b>Host</b>	Rabbit
<b>Clonality</b>	Monoclonal Antibody
<b>Isotype</b>	IgG
<b>Conjugate</b>	Unconjugated
<b>Purification</b>	Affinity Purified
<b>Calculated MW</b>	106159

## Additional Information

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<b>Gene ID</b>	5925
<b>Other Names</b>	RB1
<b>Dilution</b>	WB~~1:1000 FC~~1:10~50 IP~~N/A
<b>Format</b>	Liquid in 50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% sodium azide and 0.05% BSA.
<b>Storage</b>	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

## Protein Information

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<b>Name</b>	RB1
<b>Function</b>	<p>Tumor suppressor that is a key regulator of the G1/S transition of the cell cycle (PubMed:<a href="#">10499802</a>). The hypophosphorylated form binds transcription regulators of the E2F family, preventing transcription of E2F-responsive genes (PubMed:<a href="#">10499802</a>). Both physically blocks E2Fs transactivating domain and recruits chromatin- modifying enzymes that actively repress transcription (PubMed:<a href="#">10499802</a>). 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:<a href="#">10499802</a>). RB1 also promotes the G0-G1 transition upon phosphorylation and activation by CDK3/cyclin-C (PubMed:<a href="#">15084261</a>). 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</p>

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**

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Cell cycle-dependent phosphorylation by a CDK inhibits Rb target binding and allows cell cycle progression. Rb inactivation and subsequent cell cycle progression likely requires an initial phosphorylation by cyclin D-CDK4/6 followed by cyclin E-CDK2 phosphorylation. Specificity of different CDK/cyclin complexes has been observed in vitro and cyclin D1 is required for Ser780 phosphorylation in vivo.

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