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RB1 Antibody (S608) Blocking Peptide

Synthetic peptide
Catalog # BP6265e

Specification

RB1 Antibody (S608) Blocking Peptide - Product Information

Primary Accession P06400

RB1 Antibody (S608) Blocking Peptide - Additional Information

Gene ID 5925

Other Names
Retinoblastoma-associated protein, p105-Rb, pRb, Rb, pp110, RB1

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP6265e was selected from the S608 region of human RB1. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

RB1 Antibody (S608) Blocking Peptide - Protein Information

Name RB1

Function

RB1 Antibody (S608) Blocking Peptide - Background

The retinoblastoma protein is a tumor suppressor protein that is dysfunctional in many types of cancer.[1] One highly studied function of pRb is to prevent excessive cell growth by inhibiting cell cycle progression until a cell is ready to divide. pRb belongs to the pocket protein family, whose members have a pocket for the functional binding of other proteins.[2][3] Should an oncogenic protein, such as those produced by cells infected by high-risk types of human papillomaviruses, bind and inactivate pRb, this can lead to cancer. Retinoblastoma (RB) is an embryonic malignant neoplasm of retinal origin. It almost always presents in early childhood and is often bilateral.

RB1 Antibody (S608) Blocking Peptide - References

Dasgupta, P., et al., Mol. Cell. Biol. 24(21):9527-9541 (2004).Cui, X., et al., Hum. Pathol. 35(10):1189-1195 (2004).Borah, S., et al., J. Virol. 78(19):10336-10347 (2004).Dasgupta, P., et al., J. Biol. Chem. 279(37):38762-38769 (2004).Lohmann, D.R., et al., J. Biol. Chem. 129(1):23-28 (2004).

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. Note=During keratinocyte differentiation, acetylation by KAT2B/PCAF is required for nuclear localization.

Tissue Location
Expressed in the retina. Expressed in

foreskin keratinocytes (at protein level) (PubMed:20940255)

RB1 Antibody (S608) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides