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# RB1 Blocking Peptide (C-term P781)

**Synthetic peptide**
**Catalog # BP6265a**

## Specification

### RB1 Blocking Peptide (C-term P781) - Product Information

Primary Accession P06400

### RB1 Blocking Peptide (C-term P781) - Additional Information

**Gene ID** 5925

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

**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 Blocking Peptide (C-term P781) - Protein Information

**Name** RB1

**Function**
Tumor suppressor that is a key regulator of the G1/S transition of the cell cycle (PubMed:<a href="http://www.uniprot.org/citations/10499802" target="_blank">10499802</a>). The hypophosphorylated form binds transcription regulators of the E2F family, preventing transcription of E2F-responsive genes (PubMed:<a href="http://www.uniprot.org/citations/10499802" target="_blank">10499802</a>). Both physically blocks E2Fs transactivating domain and recruits chromatin- modifying enzymes that actively repress transcription (PubMed:<a href="http://www.uniprot.org/citations/10499802" target="_blank">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="http://www.uniprot.org/citations/10499802" target="_blank">10499802</a>). RB1 also promotes the G0-G1 transition upon phosphorylation and activation by CDK3/cyclin-C (PubMed:<a href="http://www.uniprot.org/citations/15084261" target="_blank">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 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 Blocking Peptide (C-term P781) - Protocols

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

- Blocking Peptides

## RB1 Blocking Peptide (C-term P781) - Images

## RB1 Blocking Peptide (C-term P781) - Background

Retinoblastoma (RB) is an embryonic malignant neoplasm of retinal origin. It almost always presents in early childhood and is often bilateral. Spontaneous regression ('cure') occurs in some cases.[supplied by OMIM].

## RB1 Blocking Peptide (C-term P781) - 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).