

# Active Recombinant Full Length Human Retinoblastoma 1 / RB1 Protein, Untagged

**Cat. No.** RB1-1192H    **Lot. No.** (See product label)

## SPECIFICATION

### Product Overview

#### Species

Human

#### Source

Sf9 Cells

#### Description

PRB, the product of retinoblastoma susceptibility gene RB-1, is one of the best-studied tumor suppressor gene products. At least two other pRB-related proteins, p107 and p130, have been identified and characterized. Mutations in RB-1 gene are often associated with the occurrence of various tumors. The activity of pRB is regulated through phosphorylation in a cell cycle-dependent manner. The hyperphosphorylated RB protein usually associates with the cell nucleus and binds transcription factors of E2F family. pRB represses transcription of its target genes, such as cdc2, cyclin A, and oncogene c-myc, c-fos through the binding with E2F factors and thereby regulating cell proliferation. The wild type pRB (residue1-928) is expressed in baculovirus system and purified by an affinity column in combination with FPLC chromatography. Purified protein is greater than 95% homogeneous and contains no detectable proteases, DNase, and RNase activity.

#### Usage

For in vitro use only.

#### Application

Recombinant pRB protein can be used for (1) in vitro function studies including transcription and DNA binding assays, (2) protein-protein interaction assay and (3) cell growth and proliferation assays.

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|                 |                                                                                                                                                                                                      |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Form</b>     | Liquid. Supplied in 20 mM Tris-HCl pH 8.0, 100 mM KCl, 0.2 mM EDTA, 1 mM DTT and 20% glycerol.                                                                                                       |
| <b>Activity</b> | 1 ng is sufficient for a gel mobility shift assay in a 20µl reaction, 50 ng are sufficient for reconstituted transcription assays and 100 ng are sufficient for a protein-protein interaction assay. |
| <b>Purity</b>   | > 95% by SDS-PAGE.                                                                                                                                                                                   |
| <b>Storage</b>  | Quality guaranteed for 12 months, store at -80°C. Avoid freeze / thaw cycles.                                                                                                                        |

## GENE INFORMATION

|                            |                                                                                                                                                                           |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b>           | RB1 retinoblastoma 1 [ Homo sapiens ]                                                                                                                                     |
| <b>Synonyms</b>            | RB1; retinoblastoma 1; RB; pRb; OSRC; pp110; p105-Rb; RB1; osteosarcoma; OTTHUMP00000018397; Rb; retinoblastoma susceptibility protein; retinoblastoma-associated protein |
| <b>Gene ID</b>             | 5925                                                                                                                                                                      |
| <b>mRNA Refseq</b>         | NM_000321                                                                                                                                                                 |
| <b>Protein Refseq</b>      | NP_000312                                                                                                                                                                 |
| <b>MIM</b>                 | 180200                                                                                                                                                                    |
| <b>UniProt ID</b>          | P06400                                                                                                                                                                    |
| <b>Chromosome Location</b> | 13q14.2                                                                                                                                                                   |

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|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Pathway</b>  | Bladder cancer; Cell cycle; Chronic myeloid leukemia; Glioma; Melanoma; Non-small cell lung cancer; Pancreatic cancer; Pathways in cancer; Prostate cancer; Small cell lung cancer; Cell Cycle, Mitotic; DNA Replication               |
| <b>Function</b> | androgen receptor binding; kinase binding; phosphoprotein binding; transcription coactivator activity; transcription factor activity; transcription factor binding; transcription repressor activity; ubiquitin protein ligase binding |

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