



**LD Biopharma, Inc.**  
9924 Mesa Rim Road Suite B  
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Tel: 858-876-8266  
<http://www.ldbiopharma.com>

## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Human RB1 Pocket Domain Protein  
**Catalog Number:** hTF-1035  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

Human retinoblastoma-associated protein (pRB) protein encoded by pRB gene is a negative regulator of the cell cycle and was the first tumor suppressor gene found, promotes G0-G1 transition when phosphorylated by CDK3/cyclin-C. The encoded protein also stabilizes constitutive heterochromatin to maintain the overall chromatin structure. The active, hypophosphorylated form of the protein binds transcription factor E2F1. Defects in this gene are a cause of childhood cancer retinoblastoma (RB), bladder cancer and osteogenic sarcoma.

Human RB1 pocket domain cDNA (372 -787 aa), which interact with SV40 T antigen and HPV E7 protein, was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein was expressed in *E. coli* as inclusion bodies, refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

**Gene Symbol:** RB1 fragment (OSRC; p105-Pb; pp110; pRb)  
**Accession Number:** NP\_000312  
**Species:** Human  
**Size:** 20 µg / Vial  
**Composition:** 0.1 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, arginine, DTT and Glycerol.  
**Storage:** In Liquid. Keep at -20°C for long term storage. Product is stable at 4 °C for at least 7 days.

### Key References

Daniela Fera, et al., *Identification and Characterization of Small Molecule Antagonists of pRb Inactivation by Viral Oncoproteins*. Cell, Chemistry & Biology 19, 518-528. (2012)



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attman,C.L., et al., *Sequential two-step cleavage of the retinoblastoma protein by caspase-3/-7 during etoposide-induced apoptosis*. *Oncogene* 20 (23), 2918-2926 (2001)

Faha,B., et al., *Interaction between human cyclin A and adenovirus E1A-associated p107 protein*. *Science* 255 (5040), 87-90 (1992)

## **Applications**

1. May be used for in vitro human RB1 mediated oncogenesis regulation study with intracellular protein delivery of this protein.
2. May be used for drug screen assay development with protein-protein interaction ampping such as HPV E7 & RB1 interaction assay development.
3. May be used as antigen for specific antibody production.

## **Quality Control**

1. Purity: > 90% by SDS-PAGE.

## **Recombinant Protein Sequence**

MASMTGGQQMGRGHHHHHGNLYFQGGHEHPVVRTVMNTIQQLMMILNSASDQPSENLISYFNNC  
TVNPKESILKRVKDIGYIFKEKFAKAVGQGCVEIGSQRYKLGVRLYYRVMESMLKSEERLSIQ  
NFSKLLNDNIFHMSLLACALEVVMATYSRSTSQNLDSGTDLSFPWILNVLNLKAFDFYKVIESF  
IKAEGNLTREMIKHLERCEHRIMESLAWLSDSPLFDLIKQSKDREGPTDHLESACPLNLPLQNN  
HTAADMYLSPVRSPPKKKGSTTRVNSTANAETQATSAFQTQKPLKSTLSLIFYKKVYRLAYLRLN  
TLCERLLSEHPELEHI IWTLFQHTLQNEYELMRDRHLDQIMMCSMYGICKVKNIDLKFKIIVTA  
YKDLPHAVQETFKRVLIIKEEYDSIIIVFYNSVFMQRLKTNILQYASTRPPTLSPIPHIPR