

Datasheet for ABIN3094954

**Retinoblastoma 1 Protein (RB1) (AA 2-928) (His tag)**[Go to Product page](#)**1** Image

## Overview

Quantity:	1 mg
Target:	Retinoblastoma 1 (RB1)
Protein Characteristics:	AA 2-928
Origin:	Human
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This Retinoblastoma 1 protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA, Crystallization (Crys)

## Product Details

Sequence:	PPKTPRKTA TAAAAAAEPP APPPPPPPEE DPEQDSGPED LPLVRLEFEE TEEPDF TALC QKLKIPDHVR ERAWLTWEKV SSVDGVLGGY IQKKKELWGI CIFIAAVDLD EMSFTFTELQ KNIEISVHKF FNLLKEIDTS TKVDNAMSRL LKKYDVL FAL FSKLERTCEL IYLTQPSSSI STEINSALVL KVSWITFLLA KGEVLQMEDD LVISFQLMLC VLDYFIKLSP PMLLKEPYKT AVIPINGSPR TPRRGQNRSA RIAKQLENDT RIIIEVLCKEH ECNIDEVKNV YFKNFIPFMN SLGLVTSNGL PEVENLSKRY EEIYLKNKDL DARFLDHDH TLQTDSDISF ETQRTPRKSN LDEEVNIPP HTPVRTVMNT IQQLMMILNS ASDQPSENLI SYFNNTVNP KESILKRVKD IGYIFKEKFA KAVGQGCVEI GSQRYKLGVR LYYRVMESML KSEERLSIQ NFSKLLNDNI FHMSLLACAL EVVMATYSRS TSQNLDSGTD LSFPWILNVL NLKAFDFYKV IESFIKAEGN LTREMIKHLE RCEHRIMESL AWLSDSPLFD LIKQSKDREG PTDHLESACP LNLPLQNNHT AADMYLSPVR SPKKKGSTTR VNSTANAETQ ATSAFQTQKP LKSTSLSLFY KKVYRLAYLR LNTLCERLLS EHPELEHIIW TLFQHTLQNE YELMRDRHLD QIMMCSMYGI CKVKNIDLKF
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KIIVTAYKDL PHAVQETFKR VLIKEEYDS IIVFYNSVFM QRLKTNILQY ASTRPPTLSP  
IPHIPRSPYK FPSSPLRIPG GNIYISPLKS PYKISEGLPT PTKMTPRSRI LVSIGESFGT  
SEKFQKINQM VCNSDRVLKR SAEGSNPPKP LKKLRFDIEG SDEADGSKHL PGESKFQQKL  
AEMTSTRTRM QKQKMNDMSMD TSNKEEK

**Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.**

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### Characteristics:

- Made in Germany - from design to production - by highly experienced protein experts.
- Human RB1 Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade.
- State-of-the-art algorithm used for plasmid design (Gene synthesis).

This protein is a made to order protein and will be made for the first time for your order. Our experts in the lab will ensure that you receive a correctly folded protein.

The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

In the unlikely event that the protein cannot be expressed or purified we do not charge anything (other companies might charge you for any performed steps in the expression process for custom-made proteins, e.g. fees might apply for the expression plasmid, the first expression experiments or purification optimization).

When you order this made-to-order protein you will only pay upon receipt of the correctly folded protein. With no financial risk on your end you can rest assured that our experienced protein experts will do everything to make sure that you receive the protein you ordered.

The concentration of our recombinant proteins is measured using the absorbance at 280nm. The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.

The concentration of the protein is calculated using its specific absorption coefficient. We use the Expasy's protparam tool to determine the absorption coefficient of each protein.

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### Purification:

Two step purification of proteins expressed in baculovirus infected SF9 insect cells:

1. In a first purification step, the protein is purified from the cleared cell lysate using three different His-tag capture materials: high yield, EDTA resistant, or DTT resistant. Eluate fractions are analyzed by SDS-PAGE.
2. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and Western blot.

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### Purity:

>95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.

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## Product Details

Sterility:	0.22 µm filtered
Endotoxin Level:	Protein is endotoxin free.
Grade:	Crystallography grade

## Target Details

Target:	Retinoblastoma 1 (RB1)
Alternative Name:	RB1 ( <a href="#">RB1 Products</a> )
Background:	<p>Key regulator of entry into cell division that acts as a tumor suppressor. Promotes G0-G1 transition when phosphorylated by CDK3/cyclin-C. Acts as a transcription repressor of E2F1 target genes. The underphosphorylated, active form of RB1 interacts with E2F1 and represses its transcription activity, leading to cell cycle arrest. 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). In case of viral infections, interactions with SV40 large T antigen, HPV E7 protein or adenovirus E1A protein induce the disassembly of RB1-E2F1 complex thereby disrupting RB1's activity. {ECO:0000250, ECO:0000269 PubMed:15084261}.</p>
Molecular Weight:	107.0 kDa Including tag.
UniProt:	<a href="#">P06400</a>
Pathways:	<a href="#">Cell Division Cycle</a> , <a href="#">Intracellular Steroid Hormone Receptor Signaling Pathway</a> , <a href="#">Mitotic G1-G1/S Phases</a> , <a href="#">DNA Replication</a> , <a href="#">Maintenance of Protein Location</a> , <a href="#">Synthesis of DNA</a> , <a href="#">Autophagy</a>

## Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Comment:	In cases in which it is highly likely that the recombinant protein with the default tag will be

## Application Details

insoluble our protein lab may suggest a higher molecular weight tag (e.g. GST-tag) instead to increase solubility. We will discuss all possible options with you in detail to assure that you receive your protein of interest.

Restrictions: For Research Use only

## Handling

Format:	Liquid
Buffer:	100 mM NaCL, 20 mM Hepes, 10% glycerol. pH value is at the discretion of the manufacturer.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)

## Images



**Image 1.** „Crystallography Grade“ protein due to multi-step, protein-specific purification process