

AR50868PU-S**phrB (1-472, His-tag) - Purified****Alternate names:**

Deoxyribodipyrimidine photolyase, ECK0697, JW0698, phrB

Quantity:

20 µg

Concentration:

0.25 mg/ml (determined by Bradford assay)

Background:

Deoxyribodipyrimidine photolyase, also known as phrB, is involved in repair of UV radiation-induced DNA damage. This protein catalyzes the light-dependent monomerization (300-600 nm) of cyclobutyl pyrimidine dimers (in cis-syn configuration), which are formed between adjacent bases on the same DNA strand upon exposure to ultraviolet radiation.

Uniprot ID:[P00914](#)**NCBI:**[NP_415236](#)**GeneID:**[947005](#)**Source:**

E. coli

Format:**State:** Liquid purified protein**Purity:** >90% by SDS - PAGE**Buffer System:** 20 mM Tris-HCl buffer (pH 8.0) containing 0.2M NaCl, 50% glycerol, 1mM DTT**Description:**

Recombinant E.coli phrB protein, fused to His-tag at N-terminus, was expressed in E.coli and purified by using conventional chromatography techniques.

AA Sequence:

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MGSSHHHHHH SGLVPRGSH MGSMTTHLVW FRQDLRLHDN LALAAACRNS SARVLALYIA
TPRQWATHNM SPRQAEELINA QLNGLQIALA EKGIPLLFRE VDDFVASVEI VKQVCAENSV
THLFYNYQYE VNERARDVEV ERALRNVVCE GFDDSVILPP GAVMTGNHEM YKVFTPFKNA
WLKRLREGMP ECVAAPKVR SSGSIEPSPSI TLNYPRQSF DTAHFVVEEKA AIAQLRQFCQ
NGAGEYEQQR DFPAVEGTSR LSASLATGGL SPRQCLHRL AEQPQALDGG AGSVWLNELI
WREFYRHLIT YHPSLCKHRP FIAWTDRVQW QSNPAHLQAW QEGKTGYPIV DAAMRQLNST
GWMHNRLRMI TASFLVKDLL IDWREGERYF MSQLIDGDLA ANNGGWQWAA STGTDAAPYF
RIFNPTTQGE KFDHEGEFIR QWLPELRDVP GKVVHEPWKW AQKAGVTLDY PQPIVEHKEA
RVQTLAAYEA ARK GK
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Molecular weight: 56.1 kDa (495aa)**Storage:**

Store undiluted at 2-8°C for one week or (in aliquots) at -20°C to -80°C for longer.

Avoid repeated freezing and thawing.

Shelf life: one year from despatch.

Product Citations:**Purchased from Acris:**

1. Million-Weaver, SL. The consequences of head-on replication-transcription conflicts on replication restart and genomic instability in *B. subtilis*. Thesis 2015. https://digital.lib.washington.edu/researchworks/bitstream/handle/1773/34060/MillionWeaver_washington_0250E_14466.pdf?sequence=1

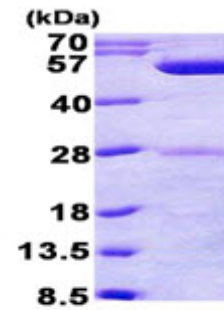
General Readings:

1. Byrdin M, Eker AP, Vos MH, Brettel K. Dissection of the triple tryptophan electron transfer chain in *Escherichia coli* DNA photolyase: Trp382 is the primary donor in photoactivation. *Proc Natl Acad Sci U S A*. 2003 Jul 22;100(15):8676-81. Epub 2003 Jun

30. PubMed PMID: 12835419.

2. Weber S. Light-driven enzymatic catalysis of DNA repair: a review of recent biophysical studies on photolyase. *Biochim Biophys Acta*. 2005 Feb 25;1707(1):1-23. PubMed PMID: 15721603.

Pictures:



15% SDS-PAGE (3ug)