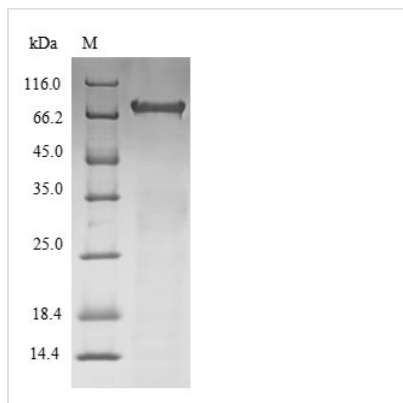




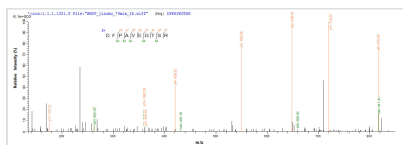
Recombinant Escherichia coli

Deoxyribodipyrimidine photo-lyase (phrB)

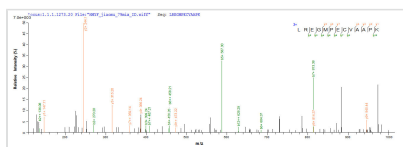
Product Code	CSB-EP360595ENV
Relevance	Involved in repair of UV radiation-induced DNA damage. Catalyzes the light-dependent monomerization (300-600 nm) of cyclobutyl pyrimidine dimers (in cis-syn configuration), which are formed between adjacent bases on the same DNA strand upon exposure to ultraviolet radiation.
Abbreviation	Recombinant E.coli phrB protein
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P00914
Product Type	Recombinant Protein
Immunogen Species	Escherichia coli (strain K12)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	MTTHLVWFRQDLRLHDNLALAAACRNSSARVLALYIATPRQWATHNMSPRQA ELINAQLNGLQIALAEKGIPLLFREVDDFVASVEIVKQVCAENSVTHLFYNYQYE VNERARDVEVERALRNVVCEGFDDSVILPPGAVMTGNHEMYKVFTPFKNAWL KRLREGMPECVAAPKVRSSGSIEPSITLNYPRQSFDTAHFPVEEKAAIAQLR QFCQNGAGEYEQQRDFPAVEGTSRLSASLATGGLSPRQCLHRLLAEQPQALD GGAGSVWLNELIWREFYRHLITYHPSLCKHRPFIAWTDRVQWQSNPAHLQAW QEGKTGYPIVDAAMRQLNSTGWMHNRLRMITASFLVKDLLIDWREGERYFMS QLIDGDLAANNGGWQWAASTGTDAAPYFRIFNPTTQGEKFDHEGEFIRQWLP ELRDVPGKVVHEPWKWAQKAGVTLDYPQPIVEHKEARVQTLAAYEAARKGK
Research Area	Epigenetics and Nuclear Signaling
Source	E.coli
Target Names	phrB
Protein Names	DNA photolyase Photoreactivating enzyme
Expression Region	1-472aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 10xHis-SUMO-tagged and C-terminal Myc-tagged
Mol. Weight	73.7kDa
Protein Length	Full Length
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.



Based on the SEQUEST from database of E.coli host and target protein, the LC-MS/MS Analysis result of CSB-EP360595ENV could indicate that this peptide derived from E.coli-expressed Escherichia coli (strain K12) phrB.



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Description

Amino acids 1-472 form the expressed segment for recombinant Escherichia coli (strain K12) phrB. The calculated molecular weight for this phrB protein is 73.7 kDa. The phrB protein was expressed in e.coli. The N-terminal 10xHis-SUMO tag and C-terminal Myc tag was smoothly integrated into the coding gene of phrB, which enables a simple process of detecting and purifying the phrB recombinant protein in the following steps.

Deoxyribodipyrimidine photo-lyase (PhrB) in Escherichia coli is a crucial enzyme involved in the repair of DNA damage caused by ultraviolet (UV) radiation. UV radiation can induce the formation of cyclobutane pyrimidine dimers (CPDs) and 6-4 photoproducts in DNA, which can lead to mutations and genomic instability. PhrB, a photolyase enzyme, specifically recognizes and repairs these UV-induced lesions. It utilizes visible light as an energy source to break the covalent bonds within the damaged DNA, thereby restoring the original structure of the nucleotides. The repair mechanism facilitated by PhrB is known as photoreactivation, and it contributes to the maintenance of genomic integrity in bacteria exposed to UV light. Studying PhrB provides insights into DNA repair processes and has implications for understanding the adaptive responses of bacteria to environmental stressors such as sunlight.

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL. We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

Shelf Life

The shelf life is related to many factors, storage state, buffer ingredients,



storage temperature and the stability of the protein itself.

Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.