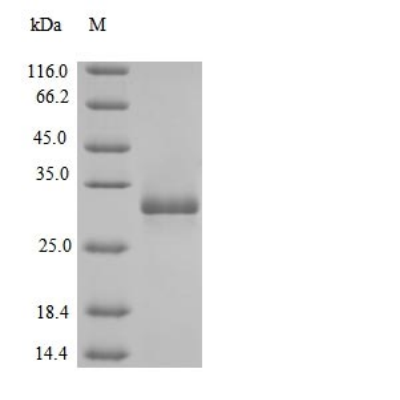
Recombinant Escherichia coli Transcriptional regulatory protein phoP (phoP)

Product Code	CSB-EP326097ENV
Relevance	Member of the two-component regulatory system PhoP/PhoQ involved in adaptation to low Mg2+ environments and the control of acid resistance genes. In low periplasmic Mg2+, PhoQ phosphorylates PhoP, resulting in the expression of PhoP-activated genes (PAG) and repression of PhoP-repressed genes (PRG). In high periplasmic Mg2+, PhoQ dephosphorylates phospho-PhoP, resulting in the repression of PAG and may lead to expression of some PRG. Mediates magnesium influx to the cytosol by activation of MgtA. Promotes expression of the two-component regulatory system rstA/rstB and transcription of the hemL, mgrB, nagA, slyB, vboR and yrbL genes. Feedback inhibited by MgrB, which seems to bind PhoQ, altering its activity and that of downstream effector PhoP. PhoP-regulated transcription is redox-sensitive, being activated when the periplasm becomes more reducing (deletion of dsbA/dsbB, or treatment with dithiothreitol). MgrB acts between DsbA/DsbB and PhoP/PhoQ in this pathway.
Abbreviation	Recombinant E.coli phoP 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.	P23836
Product Type	Recombinant Protein
Immunogen Species	Escherichia coli (strain K12)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	MRVLVVEDNALLRHHLKVQIQDAGHQVDDAEDAKEADYYLNEHIPDIAIVDLGL PDEDGLSLIRRWRSNDVSLPILVLTARESWQDKVEVLSAGADDYVTKPFHIEEV MARMQALMRRNSGLASQVISLPPFQVDLSRRELSINDEVIKLTAFEYTIMETLIR NNGKVVSKDSLMLQLYPDAELRESHTIDVLMGRLRKKIQAQYPQEVITTVRGQ GYLFELR
Research Area	others
Source	E.coli
Target Names	phoP
Protein Names	Recommended name: Transcriptional regulatory protein phoP
Expression Region	1-223aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 10xHis-tagged and C-terminal Myc-tagged

Mol. Weight	30.5kDa
Protein Length	Full Length

Image



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

Description

The construction of a plasmid coding for the Escherichia coli (strain K12) phoP protein (1-223aa) is the initial step for the preparation of the recombiant Escherichia coli (strain K12) phoP protein. The next is to transform the constructed plasmid into e.coli cells. e.coli cells containing the plasmid are screened and then cultured under conditions that promote the expression of the gene of interest. The protein is equipped with a N-terminal 10xHis tag and C-terminal Myc tag. After that, affinity purification is used to isolate and purify the recombinant phoP protein from the cell lysate. Finally, the resulting recombinant phoP protein undergoes SDS-PAGE analysis, demonstrating a purity greater than 90%.

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

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