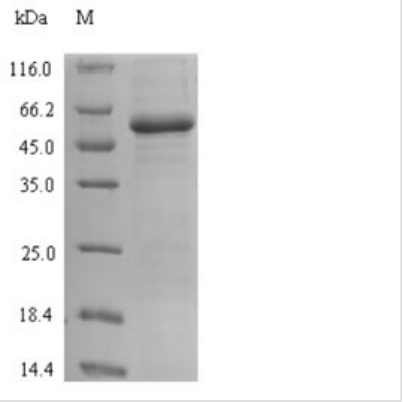
Recombinant Escherichia coli Lactose operon repressor (lacI)

Product Code	CSB-EP365825ENV
Relevance	Repressor of the lactose operon. Binds allolactose as an inducer.
Abbreviation	Recombinant E.coli lacI 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.	P03023
Product Type	Recombinant Protein
Immunogen Species	Escherichia coli (strain K12)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	MKPVTLYDVAEYAGVSYQTVSRVVNQASHVSAKTREKVEAAMAELNYIPNRV AQQLAGKQSLLIGVATSSLALHAPSQIVAAIKSRADQLGASVVVSMVERSGVEA CKAAVHNLLAQRVSGLIINYPLDDQDAIAVEAACTNVPALFLDVSDQTPINSIIFS HEDGTRLGVEHLVALGHQQIALLAGPLSSVSARLRLAGWHKYLTRNQIQPIAE REGDWSAMSGFQQTMQMLNEGIVPTAMLVANDQMALGAMRAITESGLRVGA DISVVGYDDTEDSSCYIPPLTTIKQDFRLLGQTSVDRLLQLSQGQAVKGNQLLP VSLVKRKTTLAPNTQTASPRALADSLMQLARQVSRLESGQ
Research Area	Microbiology
Source	E.coli
Target Names	lacI
Protein Names	Recommended name: Lactose operon repressor
Expression Region	1-360aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-SUMO-tagged
Mol. Weight	54.6kDa
Protein Length	Full Length
Image	



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

Description

This Recombinant E.coli K12 lacI protein was made through genetic engineering. By putting the lacI gene into the genetic material of E.coli cell, the E.coli could be used as factories or producers to make the desired lacI protein for research uses. The expression region of this protein is at 1-360aa. N-terminal 6xHis-SUMO tag was used in the expression process. The purity is 90%+ determined by SDS-PAGE.

The lactose repressor protein (LacI) was among the very first genetic regulatory proteins discovered, and more than 1000 members of the bacterial LacI/GalR family are now identified. LacI has been the prototype for understanding how transcription is controlled using small metabolites to modulate protein association with specific DNA sites. This understanding has been greatly expanded by the study of other LacI/GalR homologues. A LacI, a bacterial TF, is often used to artificially recruit proteins onto eukaryotic genomes. As LacI binds tightly to its recognition site (LacO) in vitro with a Kd about 10 picomolar (pM), it is often assumed that LacI also has high affinity to LacO in vivo. It turns out that the GFP tagging location and the fusion protein stability have a large effect on LacI binding. The common function of the LacI/GalR proteins, which features allosteric regulation of DNA binding to modulate transcription.

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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