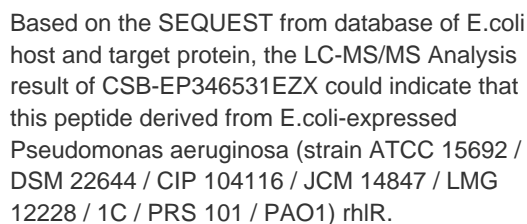
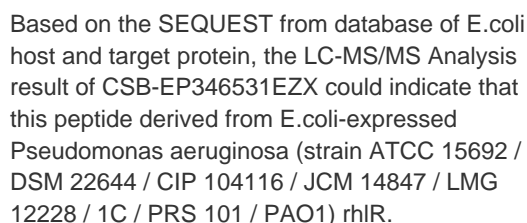
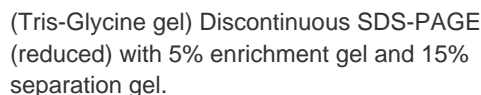




# Recombinant *Pseudomonas aeruginosa*

## Regulatory protein RhIR (rhIR)

|                          |  |
|--------------------------|--|
| <b>Product Code</b>      | CSB-EP346531EZ   |
| <b>Relevance</b>         | Necessary for transcriptional activation of the <i>rhIAB</i> genes encoding the rhamnosyltransferase. It also functions as a transcriptional activator of elastase structural gene ( <i>lasB</i> ). Binds to autoinducer molecules BHL (N-butanoyl-L-homoserine lactone), and HHL (N-hexanoyl-L-homoserine lactone). |
| <b>Abbreviation</b>      | Recombinant <i>Pseudomonas aeruginosa</i> rhIR protein   |
| <b>Storage</b>           | 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.                                      |
| <b>Uniprot No.</b>       | P54292   |
| <b>Alias</b>             | Elastase modulator   |
| <b>Product Type</b>      | Recombinant Protein  |
| <b>Immunogen Species</b> | <i>Pseudomonas aeruginosa</i>  |
| <b>Purity</b>            | Greater than 90% as determined by SDS-PAGE.  |
| <b>Sequence</b>          | MRNDGGFLLWWDGLRSEMQUIHDSQGVFAVLEKEVRRRLGFDYYAYGVRHTIP<br>FTRPKTEVHGTYPKAWLERYQMQNYGAVDPAILNGLRSSEMVVWSDSLFDQ<br>SRMLWNEARDWGLCVGATLPIRAPNNLLSVLSVARDQQNISSFEREIIRLRLR<br>CMIELLTQKLTDLEHPMLMSNPVCLSHREREILQWTADGKSSGEIAIILSISEST<br>VNFHHKNIQKKFDAPNKTAAAYAAALGLI  |
| <b>Research Area</b>     | others   |
| <b>Source</b>            | E.coli   |
| <b>Target Names</b>      | rhIR   |
| <b>Protein Names</b>     | Recommended name: Regulatory protein rhIR<br>Alternative name(s): Elastase modulator   |
| <b>Expression Region</b> | 1-241aa  |
| <b>Notes</b>             | Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.  |
| <b>Tag Info</b>          | N-terminal 10xHis-SUMO-tagged and C-terminal Myc-tagged  |
| <b>Mol. Weight</b>       | 47.6kDa  |
| <b>Protein Length</b>    | Full Length  |
| <b>Image</b>             |  |



The DNA fragment encoding the 1-241aa of the *Pseudomonas aeruginosa* rhIR protein was fused with N-terminal 10xHis-SUMO tag and C-terminal Myc tag gene and then was inserted into the expression vector, which was subsequently transformed into the *E. coli* for expression. The resulting product was further purified to obtain the recombinant *Pseudomonas aeruginosa* rhIR protein. The purity of this recombinant rhIR protein is greater than 90% assessed by Bandscan software analysis combined with SDS-PAGE. This recombinant rhIR protein showed a band on the gel with a molecular weight of approximately 45 kDa.

rhlR is a gene encoding a protein named regulatory protein RhIR and belongs to autoinducer-regulated transcriptional regulatory protein family. This protein is necessary for transcriptional activation of the rhlAB genes encoding the rhamnosyltransferase. Regulation of gene expression plays a key role in bacterial adaptability to changes in the environment. In *P. aeruginosa*, quorum sensing (QS) relies on the activation of specific transcriptional regulators (LasR and RhIR) by corresponding signals synthesized by their cognate acyl HSL synthases (LasI and RhII). rhlR transcription is subject to positive-feedback autoregulation through RhIR/C4-HSL activation of the rhlA promoter.

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.