

Datasheet for ABIN3081815

EIF4E2 Protein (AA 1-245) (Strep Tag)



[Go to Product page](#)

1 Image

Overview

Quantity:	1 mg
Target:	EIF4E2
Protein Characteristics:	AA 1-245
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This EIF4E2 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Sequence:	<p>MNNKFDALKD DDSGDHDQNE ENSTQKDGEK EKTERDKNQS SSKRKAVVPG PAEHPLQYNY</p> <p>TFWYSRRTPG RPTSSQSYEQ NIKQIGTFAS VEQFWRFYSH MVRPGDLTGH SDFHLFKEGI</p> <p>KPMWEDDANK NGGKWIIRLR KGLASRCWEN LILAMLGEQF MVGEEICGAV VSVRFQEDII</p> <p>SIWNKTASDQ ATTARIRDTL RRVNLPPNT IMEYKTHDTS IKMPGRLGPQ RLLFQNLWKP RLNV</p> <p>Sequence without tag. The proposed Strep-Tag is based on experience s with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.</p>
-----------	--

Characteristics:	<p>Key Benefits:</p> <ul style="list-style-type: none"> • Made in Germany - from design to production - by highly experienced protein experts. • Protein expressed with ALiCE® and purified by multi-step, protein-specific process to ensure correct folding and modification. • These proteins are normally active (enzymatically functional) as our customers have
------------------	--

reported (not tested by us and not guaranteed).

- State-of-the-art algorithm used for plasmid design (Gene synthesis).

This protein is a **made-to-order protein** and will be made for the first time for your order. Our experts in the lab will ensure that you receive a correctly folded protein.

The big advantage of ordering our **made-to-order proteins** in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

Expression System:

- ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from *Nicotiana tabacum* c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications.
- During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!

Concentration:

- The concentration of our recombinant proteins is measured using the absorbance at 280nm.
- The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.
- We use the ExPASy's ProtParam tool to determine the absorption coefficient of each protein.

Purification:

Two step purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®):

1. In a first purification step, the protein is purified from the cleared cell lysate using StrepTag capture material. Eluate fractions are analyzed by SDS-PAGE.
2. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and Western blot.

Purity:

>80 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.

Endotoxin Level:

Low Endotoxin less than 1 EU/mg (< 0.1 ng/mg)

Product Details

Grade: Crystallography grade

Target Details

Target: EIF4E2

Alternative Name: EIF4E2 ([EIF4E2 Products](#))

Background: Eukaryotic translation initiation factor 4E type 2 (eIF-4E type 2) (eIF4E type 2) (Eukaryotic translation initiation factor 4E homologous protein) (Eukaryotic translation initiation factor 4E-like 3) (eIF4E-like protein 4E-LP) (mRNA cap-binding protein 4EHP) (h4EHP) (mRNA cap-binding protein type 3),FUNCTION: Recognizes and binds the 7-methylguanosine-containing mRNA cap during an early step in the initiation. Acts as a repressor of translation initiation (PubMed:17368478, PubMed:22751931, PubMed:25624349, PubMed:33581076, PubMed:9582349). In contrast to EIF4E, it is unable to bind eIF4G (EIF4G1, EIF4G2 or EIF4G3), suggesting that it acts by competing with EIF4E and block assembly of eIF4F at the cap (By similarity). In P-bodies, component of a complex that promotes miRNA-mediated translational repression (PubMed:28487484). Involved in virus-induced host response by mediating miRNA MIR34A-induced translational silencing which controls IFNB1 production by a negative feedback mechanism (PubMed:28487484, PubMed:33581076). {ECO:0000250|UniProtKB:Q8BMB3, ECO:0000269|PubMed:17368478, ECO:0000269|PubMed:22751931, ECO:0000269|PubMed:25624349, ECO:0000269|PubMed:28487484, ECO:0000269|PubMed:33581076, ECO:0000269|PubMed:9582349}., FUNCTION: Component of the 4EHP-GYF2 complex, a multiprotein complex that acts as a repressor of translation initiation (PubMed:22751931, PubMed:35878012). In association with GIGYF2, assists ribosome-associated quality control (RQC) by sequestering the mRNA cap, blocking ribosome initiation and decreasing the translational load on problematic messages. Part of a pathway that works in parallel to RQC-mediated degradation of the stalled nascent polypeptide. GIGYF2 and EIF4E2 work downstream and independently of ZNF598, which seems to work as a scaffold that can recruit them to faulty mRNA even if alternative recruitment mechanisms may exist (PubMed:32726578). {ECO:0000269|PubMed:22751931, ECO:0000269|PubMed:32726578, ECO:0000269|PubMed:35878012}., FUNCTION: (Microbial infection) Upon SARS coronavirus-2/SARS-CoV-2 infection, the interaction with non-structural protein 2 (nsp2) with GIGYF2 enhances GIGYF2 binding to EIF4E2 and increases repression of translation initiation of genes involved in antiviral innate immune response such as IFNB1. {ECO:0000269|PubMed:35878012}.

Target Details

Molecular Weight:	28.4 kDa
UniProt:	O60573
Pathways:	SARS-CoV-2 Protein Interactome

Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Comment:	<p>ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from <i>Nicotiana tabacum</i> c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications.</p> <p>During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!</p>
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer. If you have a special request, please contact us.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)



Image 1. „Crystallography Grade“ protein due to multi-step, protein-specific purification process