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EIF2S1 Protein (AA 1-315) (Strep Tag)



Go to Product page

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Quantity:	1 mg
Target:	EIF2S1
Protein Characteristics:	AA 1-315
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This EIF2S1 protein is labelled with Strep Tag.
Application:	SDS-PAGE (SDS), Western Blotting (WB), ELISA

Product Details

Sequence:

MPGLSCRFYQ HKFPEVEDVV MVNVRSIAEM GAYVSLLEYN NIEGMILLSE LSRRRIRSIN KLIRIGRNEC VVVIRVDKEK GYIDLSKRRV SPEEAIKCED KFTKSKTVYS ILRHVAEVLE YTKDEQLESL FQRTAWVFDD KYKRPGYGAY DAFKHAVSDP SILDSLDLNE DEREVLINNI NRRLTPQAVK IRADIEVACY GYEGIDAVKE ALRAGLNCST ENMPIKINLI APPRYVMTTT TLERTEGLSV LSQAMAVIKE KIEEKRGVFN VQMEPKVVTD TDETELARQM ERLERENAEV DGDDDAEEME AKAED

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.

Characteristics:

Key Benefits:

- 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 posttranslational 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.
- 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)	
Target Details		
Target:	EIF2S1	
Alternative Name:	EIF2S1 (EIF2S1 Products)	
Background:	Eukaryotic translation initiation factor 2 subunit 1 (Eukaryotic translation initiation factor 2	
	subunit alpha) (eIF-2-alpha) (eIF-2A) (eIF-2alpha) (eIF2-alpha),FUNCTION: Member of the eIF2	
	complex that functions in the early steps of protein synthesis by forming a ternary complex	
	with GTP and initiator tRNA (PubMed:16289705). This complex binds to a 40S ribosomal	
	subunit, followed by mRNA binding to form a 43S pre-initiation complex (43S PIC)	
	(PubMed:16289705). Junction of the 60S ribosomal subunit to form the 80S initiation comple	
	is preceded by hydrolysis of the GTP bound to eIF2 and release of an eIF2-GDP binary comple	
	(PubMed:16289705). In order for eIF2 to recycle and catalyze another round of initiation, the	
	GDP bound to eIF2 must exchange with GTP by way of a reaction catalyzed by eIF2B	
	(PubMed:16289705). EIF2S1/ component of the integrated stress response (ISR), required for	
	adaptation to various stress: phosphorylation by metabolic-stress sensing protein kinases	
	(EIF2AK1/HRI, EIF2AK2/PKR, EIF2AK3/PERK and EIF2AK4/GCN2) in response to stress	
	converts EIF2S1/eIF2-alpha in a global protein synthesis inhibitor, leading to an attenuation of	
	cap-dependent translation, while concomitantly initiating the preferential translation of ISR-	
	specific mRNAs, such as the transcriptional activators ATF4 and QRICH1, and hence allowing	
	ATF4- and QRICH1-mediated reprogramming (PubMed:19131336, PubMed:33384352).	
	{ECO:0000269 PubMed:16289705, ECO:0000269 PubMed:19131336,	
	ECO:0000269 PubMed:33384352}.	
Molecular Weight:	36.1 kDa	
UniProt:	P05198	
Pathways:	Ribonucleoprotein Complex Subunit Organization, ER-Nucleus Signaling, Hepatitis C	
Application Details		
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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:	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	

Application Details

even the most difficult-to-express proteins, including those that require post-translational modifications.

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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)	