

## Datasheet for ABIN3137628 PERK Protein (AA 29-510) (His tag)



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### 1 Image

#### Overview

Quantity:	1 mg
Target:	PERK (EIF2AK3)
Protein Characteristics:	AA 29-510
Origin:	Mouse
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Purification tag / Conjugate:	This PERK protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA, Crystallization (Crys)

#### Product Details

Sequence:	<p>VAPARSLAP ASETVFGLGA AAAPTSAARV PAVATAEVTV EDAEALPAAA GEPESRATEP            DDDVELRPRG RSLVIISTLD GRIAALDAEN DGKKQWDLVD GSGSLVSSSL SKPEVFGNKM            IIPSLDGLDF QWDRDRESME AVPFTVESLL ESSYKFGDDV VLVGGKSLIT YGLSAYSGKL            RYICSALGCR RWDSDEMEEE EDILLQRTQ KTVRAVGPRS GSEKWNFSVG HFELRYIPDM            ETRAGFIEST FKPGGNKEDS KIISDVEEQE ATMLDTVIVK SVADWKVMAF SRKGGRLWE            YQFCTPIASA WLVRDGKVIP ISLFDDTSYT ASEEALGDEE DIVEAARGAT ENSVYLGMYR            GQLYLQSSVR VSEKFPTSPK ALESVNGENA IIPLPTIKWK PLIHSPSRTP VLVGSDEFDK            CLSNDKYSHE EYSNGALSIL QYPYDNGYYL PYYKRERNKR STQITVRFLD SPHYSKNIRK KD</p> <p><b>Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.</b></p>
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Characteristics:	<ul style="list-style-type: none"> <li>Made in Germany - from design to production - by highly experienced protein experts.</li> <li>Mouse Eif2ak3 Protein (raised in E. Coli) purified by multi-step, protein-specific process to</li> </ul>
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ensure crystallization grade.

- 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.

In the unlikely event that the protein cannot be expressed or purified we do not charge anything (other companies might charge you for any performed steps in the expression process for custom-made proteins, e.g. fees might apply for the expression plasmid, the first expression experiments or purification optimization).

When you order this made-to-order protein you will only pay upon receipt of the correctly folded protein. With no financial risk on your end you can rest assured that our experienced protein experts will do everything to make sure that you receive the protein you ordered.

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.

The concentration of the protein is calculated using its specific absorption coefficient. We use the ExPASy's protparam tool to determine the absorption coefficient of each protein.

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### Purification:

Two step purification of proteins expressed in bacterial culture:

1. In a first purification step, the protein is purified from the cleared cell lysate using three different His-tag capture materials: high yield, EDTA resistant, or DTT resistant. 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.

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### Purity:

>95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.

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### Sterility:

0.22 µm filtered

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### Endotoxin Level:

Endotoxin has not been removed. Please contact us if you require endotoxin removal.

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### Grade:

Crystallography grade

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## Target Details

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### Target:

PERK (EIF2AK3)

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### Alternative Name:

Eif2ak3 ([EIF2AK3 Products](#))

## Target Details

Background:	Metabolic-stress sensing protein kinase that phosphorylates the alpha subunit of eukaryotic translation initiation factor 2 (eIF-2-alpha/EIF2S1) on 'Ser-52' during the unfolded protein response (UPR) and in response to low amino acid availability (PubMed:11106749). Converts phosphorylated eIF-2-alpha/EIF2S1 either in a global protein synthesis inhibitor, leading to a reduced overall utilization of amino acids, or to a translation initiation activator of specific mRNAs, such as the transcriptional activator ATF4, and hence allowing ATF4-mediated reprogramming of amino acid biosynthetic gene expression to alleviate nutrient depletion (PubMed:23921556). Serves as a critical effector of unfolded protein response (UPR)-induced G1 growth arrest due to the loss of cyclin-D1 (CCND1) (PubMed:11035797). Involved in control of mitochondrial morphology and function (PubMed:23921556). {ECO:0000269 PubMed:11035797, ECO:0000269 PubMed:11106749, ECO:0000269 PubMed:23921556}.
Molecular Weight:	54.3 kDa Including tag.
UniProt:	<a href="#">Q9Z2B5</a>
Pathways:	<a href="#">Hormone Transport</a> , <a href="#">ER-Nucleus Signaling</a> , <a href="#">Positive Regulation of Endopeptidase Activity</a> , <a href="#">Hepatitis C</a>

## 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:	Protein has not been tested for activity yet. In cases in which it is highly likely that the recombinant protein with the default tag will be insoluble our protein lab may suggest a higher molecular weight tag (e.g. GST-tag) instead to increase solubility. We will discuss all possible options with you in detail to assure that you receive your protein of interest.
Restrictions:	For Research Use only

## Handling

Format:	Liquid
Buffer:	100 mM NaCL, 20 mM Hepes, 10% glycerol. pH value is at the discretion of the manufacturer.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C

## Handling

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Storage Comment: Store at -80°C.

Expiry Date: Unlimited (if stored properly)

## Images

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