

Datasheet for ABIN3137627
PERK Protein (AA 29-1114) (rho-1D4 tag)



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Overview

Quantity:	1 mg
Target:	PERK (EIF2AK3)
Protein Characteristics:	AA 29-1114
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This PERK protein is labelled with rho-1D4 tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA, Crystallization (Crys)

Product Details

Sequence:	VAPARSL LAP ASETVFGLGA AAAPTSAARV PAVATAEVTV ED AEALPAAA GEPESRATEP DDDVELRPRG RSLVIISTLD GRIAALDAEN DGKKQWDL DV GSGSLVSSSL SKPEVFGNKM IIPSLDGD LF 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 IIP LPTIKWK PLIHSPSRTP VLVGSDEFDK CLSNDKYSHE EYSNGALSIL QYPYDNGYYL PYYKRERNKR STQITVRFLD SPHYSKNIRK KDPILLHWW KEIFGTILLC IVATT FIVRR LFHPQPHRQR KESETQCQTE SKYDSVSADV SDNSWNDMKY SGYVSRYLTD FEPIQCMGRG GFGVVFEAKN KVDDCN YAIK RIRLPNRELA REKVMREVKA LAKLEHPGIV RYFNAWLETP PEKWQEEMDE IWLKDESTDW PLSSPSPMDA PSVKIRRM DP FSTKEQIEVI APSPERSRSF SVGISCGQTS SSESQFSPLE FSGTDCGDNS
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DSADAAYNLQ DSCLTDCEDV EDGTVDGNDE GHSFELCPSE ASPYTRSREG TSSSIVFEDS
GCGNASSKEE PRGNRLHDGN HYVNKLTDLK CSSSRSSSEA TTLSTSPTRP TTLSLDFTKN
TVGQLQPSSP KVYLYIQMQL CRKENLKDWM NRRCSLEDRE HGVCLHIFLQ IAEAVEFLHS
KGLMHRDLKP SNIFFTMDDV VKVGDFGLVT AMDQDEEEQT VLTMPAYAT HTGQVGTKLY
MSPEQIHGNN YSHKVDIFSL GLILFELLYP FSTQMERVRI LTDVRNLKFP LLFTQKYPQE
HMMVQDMLSP SPTERPEATD IENAFENL EFPGKTVLRQ RSRSMSSSGT KHSRQPSCSY
SPLPGN

Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.

Characteristics:

- Made in Germany - from design to production - by highly experienced protein experts.
- Mouse Eif2ak3 Protein (raised in Insect Cells) purified by multi-step, protein-specific process to 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.

Purification:

Three step purification of membrane proteins expressed in baculovirus infected SF9 insect cells:

1. Membrane proteins are fractioned by ultracentrifugation and subsequently solubilized with different detergents (detergent screen). Samples are analyzed by Western blot.
2. The best performing detergent is used for solubilization and the proteins are purified via their

Product Details

rho1D4 tag via two rho1D4 antibody columns: one DTT resistant, the other one not. Eluate fractions are analyzed by Western blot.

3. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatograph. Eluate fractions are analyzed by SDS-PAGE and Western blot.

Purity:	>95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
Sterility:	0.22 µm filtered
Endotoxin Level:	Protein is endotoxin-free.
Grade:	Crystallography grade

Target Details

Target:	PERK (EIF2AK3)
Alternative Name:	Eif2ak3 (EIF2AK3 Products)
Background:	<p>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).</p> <p>{ECO:0000269 PubMed:11035797, ECO:0000269 PubMed:11106749, ECO:0000269 PubMed:23921556}.</p>
Molecular Weight:	122.9 kDa Including tag.
UniProt:	Q9Z2B5
Pathways:	Hormone Transport , ER-Nucleus Signaling , Positive Regulation of Endopeptidase Activity , Hepatitis C , Unfolded Protein Response

Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies
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Application Details

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

Storage Comment: Store at -80°C.

Expiry Date: Unlimited (if stored properly)