Datasheet for ABIN3137401

GCN2 Protein (AA 1-1648) (His tag)

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Overview

Quantity:	1 mg
Target:	GCN2 (EIF2AK4)
Protein Characteristics:	AA 1-1648
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This GCN2 protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA, Crystallization (Crys)

Product Details

Sequence:	MAGGRGASGR GRAEPQESYS QRQDHELQAL EAIYGSDFQD LRPDARGRVR EPPEINLVLY PQGLAGEEVY VQVELQVKCP PTYPDVVPEI ELKNAKGLSN ESVNLLKSHL EELAKKQCGE VMIFELAHHV QSFLSEHNKP PPKSFHEEML ERQAQEKQQR LLEARRKEEQ EQREILHEIQ RRKEEIKEEK KRKEMAKQER LEITSLTNQD YASKRDPAGH RAAAILHGGS PDFVGNGKAR TYSSGRSRRE RQYSVCSGEP SPGSCDILHF SVGSPDQLMV HKGRCVGSDE QLGKVVYNAL ETATGSFVLL HEWVLQWQKM GPCLTSQEKE KIDKCKRQIQ GAETEFSSLV KLSHPNIVRY FAMNSREEED SIVIDILAEH VSGISLATHL SHSGPVPAHQ LRKYTAQLLA GLDYLHSNSV VHKVLSASSV LVDAEGTVKI TDYSISKRLA DICKEDVFEQ ARVRFSDSAL PYKTGKKGDV WRLGLLLLSL SQGQECGEYP VTIPSDLPAD FQDFLKKCVC LDDKERWSPQ QLLKHSFINP QPKLPLVEQS PEDSGGQDYI ETVIPSNQLP SAAFFSETQK QFSRYFIEFE ELQLLGKGAF GAVIKVQNKL DGCCYAVKRI PINPASRHFR RIKGEVTLLS RLHHENIVRY YNAWIERHER PAVPGTPPPD CTPQAQDSPA TCGKTSGDTE ELGSVEAAAP PPILSSSVEW STSAERSTST

RFPVTGQDSS SDEEDEDERD GVFSQSFLPA SDSDSDIIFD NEDENSKSQN QDEDCNQKDG SHEIEPSVTA EAVHYLYIQM EYCEKSTLRD TIDQGLFRDT SRLWRLFREI LDGLAYIHEK GMIHRDLKPV NIFLDSDDHV KIGDFGLATD HLAFTAEGKQ DDQAGDGVIK SDPSGHLTGM VGTALYVSPE VQGSTKSAYN QKVDLFSLGI IFFEMSYHPM VTASERIFVL NQLRDPTSPK FPDDFDDGEH TKQKSVISWL LNHDPAKRPT AMELLKSELL PPPQMEESEL HEVLHHTLAN IDGKAYRTMM SQIFCQHISP AIDYTYDSDI LKGNFLIRTA KIQQLVCETI VRVFKRHGAV QLCTPLLLPR NRQIYEHNEA ALFMDHSGML VMLPFDLRVP FARYVARNNI LNLKRYCIER VFRPRKLDRF HPKELLECAF DIVTSTTNSS LPTAETIYTI YEIIQEFPAL QERNYSIYLN HTMLLKAILL HCGIPEDKLS QVYVILYDAV TEKLTRREVE AKFCNLSLSS NSLCRLYKFI EQKGDLQDLT PTINSLIKQK TGVAQLVKYS LKDLEDVVGL LKKLGVKLQV SINLGLVYKV QQHTGIIFQF LAFSKRRQRV VPEILAAGGR YDLLIPKFRG PQTVGPVPTA VGVSIAIDKI FAAVLNMEEP VTVSSCDLLV VSVGQMSMSR AINLTQKLWT AGITAEIMYD WSQSQEELQE YCRHHEITYV ALVSDKEGSH VKVKSFEKER QTEKRVLESD LVDHVMQKLR TKVGDERNFR DASDNLAVQT LKGSFSNASG LFEIHGTTVV PNVIVLAPEK LSASTRRRHE IQVQTRLQTT LANLHQKSSE IEILAVDLPK ETILQFLSLE WDADEQAFNT TVKQLLSRLP KQRYLKLVCD EIYNIKVEKK VSVLFLYSYR DDYYRILF

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 Eif2ak4 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 receival 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.

Product Details

	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:	Two step purification of proteins expressed in baculovirus infected SF9 insect cells: 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.
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:	GCN2 (EIF2AK4)
Alternative Name:	Eif2ak4 (EIF2AK4 Products)
Background:	Metabolic-stress sensing protein kinase that phosphorylates the alpha subunit of eukaryotic translation initiation factor 2 (eIF-2-alpha/EIF2S1) on 'Ser-52' in response to low amino acid availability (PubMed:10504407, PubMed:10655230, PubMed:12176355, PubMed:12215525, PubMed:15213227, PubMed:16054071, PubMed:16176978, PubMed:16121183, PubMed:15774759, PubMed:16601681, PubMed:26102367). Plays a role as an activator of the integrated stress response (ISR) required for adapatation to amino acid starvation. Converts phosphorylated eIF-2-alpha/EIF2S1 either to a competitive inhibitor of the translation initiation factor eIF-2B, leading to a global protein synthesis repression, and thus to a reduced overall utilization of amino acids, or to a translational initiation activation 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:10655230, PubMed:11106749, PubMed:12176355, PubMed:15213227, PubMed:16176978, PubMed:26102367). Binds uncharged tRNAs (By similarity). Involved in cell cycle arrest by promoting cyclin D1 mRNA translation repression after the unfolded protein response pathway

Target Details

	(UPR) activation or cell cycle inhibitor CDKN1A/p21 mRNA translation activation in response to amino acid deprivation (PubMed:16176978, PubMed:26102367). Plays a role in the consolidation of synaptic plasticity, learning as well as formation of long-term memory (PubMed:16121183). Plays a role in neurite outgrowth inhibition (PubMed:23447528). Plays a role in feeding behavior to maintain amino acid homeostasis, contributes to the innate aversion toward diets of imbalanced amino acid composition (PubMed:16054071, PubMed:15774759). Plays a proapoptotic role in response to glucose deprivation (PubMed:20660158). Promotes global cellular protein synthesis repression in response to UV irradiation independently of the stress-activated protein kinase/c-Jun N-terminal kinase (SAPK/JNK) and p38 MAPK signaling pathways (PubMed:12176355). {ECO:0000250|UniProtKB:P15442, ECO:0000269|PubMed:10504407, ECO:0000269|PubMed:10655230, ECO:0000269|PubMed:11106749, ECO:0000269|PubMed:12176355, ECO:0000269|PubMed:12215525, ECO:0000269|PubMed:15213227, ECO:0000269|PubMed:15774759, ECO:0000269|PubMed:16054071, ECO:0000269|PubMed:16121183, ECO:0000269|PubMed:16176978, ECO:0000269|PubMed:16601681, ECO:0000269|PubMed:20660158, ECO:0000269|PubMed:23447528, ECO:0000269|PubMed:26102367}., (Microbial infection) Plays a role in the antiviral response against alphavirus infection, impairs early viral mRNA translation of the incoming genomic virus RNA, thus preventing alphavirus replication (PubMed:16601681). Plays a role in modulating the adaptive immune response to yellow fever virus infection, promotes dendritic cells to initiate autophagy and antigene presentation to both CD4(+) and CD8(+) T-cells under amino acid starvation (PubMed:24310610). {ECO:0000269|PubMed:16601681, ECO:0000269|PubMed:24310610}.
Molecular Weight:	187.4 kDa Including tag.
UniProt:	Q9QZ05
Pathways:	ER-Nucleus Signaling, Hepatitis C

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 gurantee 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

Application Details

	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)

Images

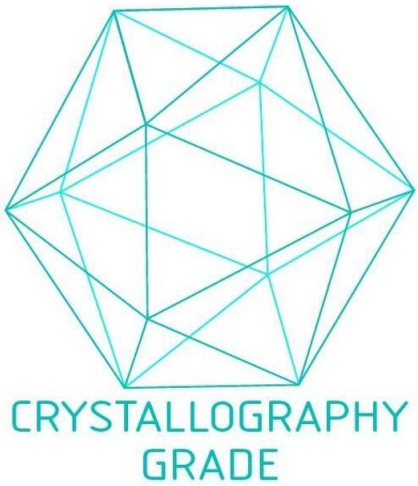

Image 1. „Crystallography Grade“ protein due to multi-step, protein-specific purification process