Datasheet for ABIN3134824

EIF2AK2 Protein (AA 2-515) (His tag)

1 Image

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Overview

Quantity:	1 mg
Target:	EIF2AK2
Protein Characteristics:	AA 2-515
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This EIF2AK2 protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA, Crystallization (Crys)

Product Details

Sequence:	ASDTPGFYMD KLNKYRQMHG VAITYKELST SGPPHDRRFT FQVLIDEKEF PEAKGRSKQE ARNAAAKLAV DILDNENKVD CHTSASEQGL FVGNYIGLVN SFAQKKKLSV NYEQCEPNSE LPQRFICKCK IGQTMYGTGS GVTKQEAKQL AAKEAYQKLL KSPPKTAGTS SSVVTSTFSG FSSSSSMTSN GVSQSAPGSF SSENVFTNGL GENKRKSGVK VSPDDVQRNK YTLDARFNSD FEDIEEIGLG GFGQVFKAKH RIDGKRYAIK RVKYNTEKAE HEVQALAELN HVNIVQYHSC WEGVDYDPEH SMSDTSRYKT RCLFIQMEFC DKGTLEQWMR NRNQSKVDKA LILDLYEQIV TGVEYIHSKG LIHRDLKPGN IFLVDERHIK IGDFGLATAL ENDGKSRTRR TGTLQYMSPE QLFLKHYGKE VDIFALGLIL AELLHTCFTE SEKIKFFESL RKGDFSNDIF DNKEKSLLKK LLSEKPKDRP ETSEILKTLA EWRNISEKKK RNTC **Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.**

Product Details

Characteristics:	• Made in Germany - from design to production - by highly experienced protein experts. • Mouse Eif2ak2 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. 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:	EIF2AK2
Alternative Name:	Eif2ak2 (EIF2AK2 Products)
Background:	IFN-induced dsRNA-dependent serine/threonine-protein kinase which plays a key role in the innate immune response to viral infection and is also involved in the regulation of signal transduction, apoptosis, cell proliferation and differentiation. Exerts its antiviral activity on a wide range of DNA and RNA viruses including west nile virus (WNV), sindbis virus (SV), foot-and-mouth virus (FMDV), semliki Forest virus (SFV) and lymphocytic choriomeningitis virus (LCMV). Inhibits viral replication via phosphorylation of the alpha subunit of eukaryotic initiation factor 2 (EIF2S1), this phosphorylation impairs the recycling of EIF2S1 between successive rounds of initiation leading to inhibition of translation which eventually results in shutdown of cellular and viral protein synthesis. Also phosphorylates other substrates including p53/TP53, PPP2R5A, DHX9, ILF3 and IRS1. In addition to serine/threonine-protein kinase activity, also has tyrosine-protein kinase activity and phosphorylates CDK1 at 'Tyr-4' upon DNA damage, facilitating its ubiquitination and proteosomal degradation. Either as an adapter protein and/or via its kinase activity, can regulate various signaling pathways (p38 MAP kinase, NF-kappa-B and insulin signaling pathways) and transcription factors (JUN, STAT1, STAT3, IRF1, ATF3) involved in the expression of genes encoding proinflammatory cytokines and IFNs. Activates the NF-kappa-B pathway via interaction with IKBKB and TRAF family of proteins and activates the p38 MAP kinase pathway via interaction with MAP2K6. Can act as both a positive and negative regulator of the insulin signaling pathway (ISP). Negatively regulates ISP by inducing the inhibitory phosphorylation of insulin receptor substrate 1 (IRS1) at 'Ser-312' and positively regulates ISP via phosphorylation of PPP2R5A which activates FOXO1, which in turn up-regulates the expression of insulin receptor substrate 2 (IRS2). Can regulate NLRP3 inflammasome assembly and the activation of NLRP3, NLRP1, AIM2 and NLRC4 inflammasomes. Can trigger apoptosis via FADD-mediated activation of CASP8. Plays a role in the regulation of the cytoskeleton by binding to gelsolin (GSN), sequestering the protein in an inactive conformation away from actin. Regulates proliferation, differentiation and survival of hematopoietic stem/progenitor cells, induction of cytokines and chemokines and plays a role in cortex-dependent memory consolidation. {ECO:0000269|PubMed:19229320, ECO:0000269|PubMed:19264662, ECO:0000269|PubMed:20038207, ECO:0000269|PubMed:20478537, ECO:0000269|PubMed:20585572, ECO:0000269|PubMed:20631127, ECO:0000269|PubMed:21123651, ECO:0000269|PubMed:21994357, ECO:0000269|PubMed:22633459, ECO:0000269|PubMed:22801494, ECO:0000269|PubMed:22948222, ECO:0000269|PubMed:23392680, ECO:0000269|PubMed:23401008,

Target Details

	ECO:0000269|PubMed:23403623}.
Molecular Weight:	59.1 kDa Including tag.
UniProt:	Q03963
Pathways:	DNA Damage Repair, 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 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)

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