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Datasheet for ABIN3134942

## GSK3 alpha Protein (AA 2-490) (His tag)

### 1 Image

#### Overview

Quantity:	1 mg
Target:	GSK3 alpha (GSK3a)
Protein Characteristics:	AA 2-490
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This GSK3 alpha protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA, Crystallization (Crys)

#### Product Details

Sequence: SGGGPPSGGGP GGSGRARTSS FAEPGGGGGG GGGGPGGSAS GPGGTGGGKA SVGAMGGGVG  
ASSSGGGPSG SGGGGSGGPG AGTSFPPPGV KLGRDSGKVT TVVATVGQGP ERSQEVAYTD  
IKVINGNSFG VVYQARLAET RELVAIKKVL QDKRFKNREL QIMRKLDHCN IVRLRYFFYS  
SGEKKDELYL NLVLEYVPET VYRVARHFTK AKLITPIIYI KVYMYQLFRS LAYIHSQGVC  
HRDIKPQNLL VDPDTAVLKL CDFGSAKQLV RGEPNVSYIC SRYRRAPELI FGATDYTSSI  
DVWSAGCVLA ELLLGQPIFP GDSGVDQLVE IIKVLGTPTR EQIREMNPNY TEFKFPQIKA  
HPWTKVFKSS KTPPEAIALC SSLLEYTPSS RLSPLEACAH SFFDELRRLG AQLPNDRPLP  
PLFNFSPGEL SIQPSLNAIL IPPHLRSPAG PASPLTTSYN PSSQALTEAQ TGQDWQPSDA  
TTATLASSS

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

## Product Details

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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 Gsk3a Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade.</li><li>• State-of-the-art algorithm used for plasmid design (Gene synthesis).</li></ul> <p>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.</p> <p>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.</p> <p>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).</p> <p>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.</p> <p>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.</p> <p>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.</p>
Purification:	<p>Two step purification of proteins expressed in baculovirus infected SF9 insect cells:</p> <ol style="list-style-type: none"><li>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.</li><li>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.</li></ol>
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

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Target:	GSK3 alpha (GSK3a)
Alternative Name:	Gsk3a ( <a href="#">GSK3a Products</a> )
Background:	<p>Constitutively active protein kinase that acts as a negative regulator in the hormonal control of glucose homeostasis, Wnt signaling and regulation of transcription factors and microtubules, by phosphorylating and inactivating glycogen synthase (GYS1 or GYS2), CTNNB1/beta-catenin, APC and AXIN1. Requires primed phosphorylation of the majority of its substrates. Contributes to insulin regulation of glycogen synthesis by phosphorylating and inhibiting GYS1 activity and hence glycogen synthesis. Regulates glycogen metabolism in liver, but not in muscle. May also mediate the development of insulin resistance by regulating activation of transcription factors. In Wnt signaling, regulates the level and transcriptional activity of nuclear CTNNB1/beta-catenin. Facilitates amyloid precursor protein (APP) processing and the generation of APP-derived amyloid plaques found in Alzheimer disease. May be involved in the regulation of replication in pancreatic beta-cells. Is necessary for the establishment of neuronal polarity and axon outgrowth. Through phosphorylation of the anti-apoptotic protein MCL1, may control cell apoptosis in response to growth factors deprivation. {ECO:0000269 PubMed:15791206, ECO:0000269 PubMed:16543145, ECO:0000269 PubMed:17391670, ECO:0000269 PubMed:17908561}.</p>
Molecular Weight:	52.5 kDa Including tag.
UniProt:	<a href="#">Q2NL51</a>
Pathways:	<a href="#">PI3K-Akt Signaling</a> , <a href="#">WNT Signaling</a> , <a href="#">Fc-epsilon Receptor Signaling Pathway</a> , <a href="#">EGFR Signaling Pathway</a> , <a href="#">Neurotrophin Signaling Pathway</a> , <a href="#">cAMP Metabolic Process</a> , <a href="#">Cellular Glucan Metabolic Process</a> , <a href="#">Regulation of Muscle Cell Differentiation</a> , <a href="#">Regulation of G-Protein Coupled Receptor Protein Signaling</a> , <a href="#">ER-Nucleus Signaling</a> , <a href="#">Regulation of Carbohydrate Metabolic Process</a> , <a href="#">BCR Signaling</a> , <a href="#">Warburg Effect</a>

## 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:	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.

## Application Details

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Restrictions: For Research Use only

## Handling

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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

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