

Datasheet for ABIN3136846
SH2B1 Protein (AA 1-756) (His tag)



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1 Image

Overview

Quantity:	1 mg
Target:	SH2B1
Protein Characteristics:	AA 1-756
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This SH2B1 protein is labelled with His tag.
Application:	ELISA, Western Blotting (WB), Crystallization (Crys), SDS-PAGE (SDS)

Product Details

Sequence: MNGAPSPEDG VFPSPPALPP PPPPSWQEFC ESHARAAALD LARRFRLYLA SHPQYAEPGA
 EAAFSGRFAE LFLQHFEAEV ARASGSLSPV VLAPLSPGVE IPPSHDLSLE SCRVGGLAV
 LGPSRSSDL AGPLPSSVPS STTSSKPKLK KRFSLRVGR SVRGSVRGIL QWRGAVDSPA
 QAGPLETTSG PPVLGGNSNS NSSGGAGTVG RALANDGTSP GERWTHRFRER LRLSRGGGTL
 KDGAGMIQRE ELLSFMGAEE AAPDPAGVGR GGAAGLTSG GGGQPQWQKC RLLLRSEGE
 GGGSRLEFFV PPKASRPRLS IPCSTITDVR TATALEMPDR ENTFVVKVEG PSEYILETSD
 ALHVKAWVSD IQECLSPGPC PAISPRPMTL PLAPGTSFFT KDNTDSLELP CLNHSESLPS
 QDLLLGPSES NDRLSQGAYG GLSDRPSASF SPSSASIAAS HFDSMELLPP ELPPRIPIE
 GPPAGTVHPL STPYPLDTP EAATGSFLFQ GESEGGEGDQ PLSGYPWFHG MLSRLKAAQL
 VLEGGTGSYG VFLVRQSETR RGEYVLTFFN QGKAKHLRLS LNEEGQCRVQ HLWFQSIFDM
 LEHFRVHIP LESGGSSDVV LVSYPVSRQ QERSTSRDPA QPSEPPWTD PPHPGAEAS
 GAPEVAAATA AAAKERQEKE KAGSGGVQEE LVPVAELVPM VELEEAIAPG TEAQGGAGSS

GDLEVSLMVQ LQQLPLGGNG EEGGHPRAIN NQYSFV

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 Sh2b1 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:

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.

Product Details

Grade: Crystallography grade

Target Details

Target: SH2B1

Alternative Name: Sh2b1 ([SH2B1 Products](#))

Background: Adapter protein for several members of the tyrosine kinase receptor family. Involved in multiple signaling pathways mediated by Janus kinase (JAK) and receptor tyrosine kinases, including the receptors of insulin (INS), insulin-like growth factor I (IGF1), nerve growth factor (NGF), brain-derived neurotrophic factor (BDNF), glial cell line-derived neurotrophic factor (GDNF), platelet-derived growth factor (PDGF) and fibroblast growth factors (FGFs). In growth hormone (GH) signaling, autophosphorylated ('Tyr-813') JAK2 recruits SH2B1, which in turn is phosphorylated by JAK2 on tyrosine residues. These phosphotyrosines form potential binding sites for other signaling proteins. GH also promotes serine/threonine phosphorylation of SH2B1 and these phosphorylated residues may serve to recruit other proteins to the GHR-JAK2-SH2B1 complexes, such as RAC1. In leptin (LEP) signaling, binds to and potentiates the activation of JAK2 by globally enhancing downstream pathways. In response to leptin, binds simultaneously to both, JAK2 and IRS1 or IRS2, thus mediating formation of a complex of JAK2, SH2B1 and IRS1 or IRS2. Mediates tyrosine phosphorylation of IRS1 and IRS2, resulting in activation of the PI 3-kinase pathway. Acts as positive regulator of NGF-mediated activation of the Akt/Forkhead pathway, prolongs NGF-induced phosphorylation of AKT1 on 'Ser-473' and AKT1 enzymatic activity. Enhances the kinase activity of the cytokine receptor-associated tyrosine kinase JAK2 and of other receptor tyrosine kinases, such as FGFR3 and NTRK1. For JAK2, the mechanism seems to involve dimerization of both, SH2B1 and JAK2. Enhances RET phosphorylation and kinase activity (By similarity). Isoforms seem to be differentially involved in IGF-I and PDGF-induced mitogenesis, according the order: isoform 3 > isoform 4 > isoform 1 > isoform 2. {ECO:0000250, ECO:0000269|PubMed:11502739, ECO:0000269|PubMed:15316008, ECO:0000269|PubMed:16098827, ECO:0000269|PubMed:9343427}.

Molecular Weight: 80.6 kDa Including tag.

UniProt: [Q91ZM2](#)

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

Application Details

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)

Images



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