

Datasheet for ABIN3092746

GEMIN5 Protein (AA 1-1508) (Strep Tag)



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Overview

Quantity:	1 mg
Target:	GEMIN5
Protein Characteristics:	AA 1-1508
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This GEMIN5 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Sequence:	MGQEPTLPP SPNWYCARCS DAVPGGLFGF AARTSVFLVR VGPGAGESPG TPPFRVIGEL VGHTERVSGF TFSHHPGQYN LCATSSDDGT VKIWDVETKT VTEHALHQH TISTLHWSRP VKDLIVSGDE KGVVFCYWFN RNDSQLFIE PRTIFCLTCS PHHEDLVAIG YKDGIVVIID ISKKGEVIHR LRGHDDIEHS IAWCPLPGED CLSINQEETS EEAEITNGNA VAQAPVTKGC YLATGSKDQT IRIWSCSRGR GVMILKLPFL KRRGGGIDPT VKERLWLT LH WPSNQPTQLV SSCFGGELLQ WDLTQSWRRK YTLFSASSEG QNHSRIVFNL CPLQTEDDKQ LLLSTSMDRD VKCWDIATLE CSWTLPSLGG FAYSLAFSSV DIGSLAIGVG DGMIRVWNTL SIKNNYDVKN FWQGVKSKVT ALCWHPTKEG CLAFGTDDGK VGLYDTYSNK PPQISSTYHK KTVYTLAWGP PVPPMSLGGE GDRPSLALYS CGGEGIVLQH NPWKLSGEAF DINKLIRD TN SIKYKLPVHT EISWKADGKI MALGNEDGSI EIFQIPNLKL ICTIQHHKL VNTISWHHEH GSQPELSYLM ASGSNNAVIY VHNLKTVIES SPESPTITE PYRTLSGHTA KITSVAWSPH HDGRLVSASY DGTAQVWDAL REEPLCNFRG HRGRLLCVAW SPLDPDCIYS GADDFCVHKW LTSMQDHSRP
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PQGKKSIELE KKRLSQPKAK PKKKKKPTLR TPKLESIDG NEEESMKENS GPVENGVSQDQ
EGEEQAREPE LPCGLAPAVS REPVICTPVS SGFEKSKVTI NNVILLKKE PPKEKPETLI
KKRKARSLLP LSTSLDHRSK EELHQDCLVL ATAKHSRELN EDVSADVEER FHLGLFTDRA
TLYRMIDIEG KGHLENGHPE LFHQLMLWKG DLKGVLTAA ERGELTDNLV AMAPAAGYHV
WLWAVEAFK QLCFQDQYVK AASHLLSIHK VYEAVELLKS NHFYREIAI AKARLRPEDP
VLKDLYLSWG TVLERDGHYA VAAKCYLGAT CAYDAKVLK KKGDAASLRT AAELAAIVGE
DELSASLALR CAQELLANN WVGAEALQL HESLQGQRLV FCLLELLSRH LEEKQLSEK
SSSSYHTWNT GTEGPFVERV TAVWKSIFSL DTPEQYQEAF QKLQNIKYP ATNNTPAKQL
LLHICHDLTL AVLSQQMASW DEAVQALLRA VVRSYDSGSF TIMQEVYSAF LPDGCDHLRD
KLGDHQSPAT PAFKSLEAFF LYGRLYEFWW SLSRPCPNSS VVVRAGHRTL SVEPSQQLDT
ASTEETDPET SQPEPNRPSE LDLRLTEEGE RMLSTFKELF SEKHASLQNS QRTVAEVQET
LAEMIRQHQQ SQLCKSTANG PDKNEPEVEA EQPLCSSSQS CKEEKNEPLS LPELTKRLTE
ANQRMAKFPE SIKAWPFPDV LECCLVLLLI RSHFPGCLAQ EMQQQAQELL QKYGNTKTYR
RHCQTFCM

Sequence without tag. The proposed Strep-Tag is based on experience s with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.

Characteristics:

Key Benefits:

- Made in Germany - from design to production - by highly experienced protein experts.
- Protein expressed with ALiCE® and purified by multi-step, protein-specific process to ensure correct folding and modification.
- These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed).
- 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.

Expression System:

- ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from *Nicotiana tabacum* c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications.

Product Details

- During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!

Concentration:

- 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.
- We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.

Purification:	Two step purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®): 1. In a first purification step, the protein is purified from the cleared cell lysate using StrepTag capture material. 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:	>80 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
Endotoxin Level:	Low Endotoxin less than 1 EU/mg (< 0.1 ng/mg)
Grade:	Crystallography grade

Target Details

Target:	GEMIN5
Alternative Name:	GEMIN5 (GEMIN5 Products)
Background:	Gem-associated protein 5 (Gemin5),FUNCTION: The SMN complex catalyzes the assembly of small nuclear ribonucleoproteins (snRNPs), the building blocks of the spliceosome, and thereby plays an important role in the splicing of cellular pre-mRNAs (PubMed:16857593, PubMed:18984161, PubMed:20513430, PubMed:33963192). Most spliceosomal snRNPs contain a common set of Sm proteins SNRPB, SNRPD1, SNRPD2, SNRPD3, SNRPE, SNRPF and SNRPG that assemble in a heptameric protein ring on the Sm site of the small nuclear RNA to form the core snRNP (Sm core). In the cytosol, the Sm proteins SNRPD1, SNRPD2, SNRPE,

Target Details

SNRPF and SNRPG are trapped in an inactive 6S pICln-Sm complex by the chaperone CLNS1A that controls the assembly of the core snRNP (PubMed:18984161). To assemble core snRNPs, the SMN complex accepts the trapped 5Sm proteins from CLNS1A forming an intermediate (PubMed:18984161). Binding of snRNA inside 5Sm ultimately triggers eviction of the SMN complex, thereby allowing binding of SNRPD3 and SNRPB to complete assembly of the core snRNP. Within the SMN complex, GEMIN5 recognizes and delivers the small nuclear RNAs (snRNAs) to the SMN complex (PubMed:11714716, PubMed:16857593, PubMed:19377484, PubMed:19750007, PubMed:20513430, PubMed:27834343, PubMed:27881600, PubMed:27881601, PubMed:16314521). Binds to the 7-methylguanosine cap of RNA molecules (PubMed:19750007, PubMed:27834343, PubMed:27881600, PubMed:27881601, Ref.27). Binds to the 3'-UTR of SMN1 mRNA and regulates its translation, does not affect mRNA stability (PubMed:25911097). May play a role in the regulation of protein synthesis via its interaction with ribosomes (PubMed:27507887). {ECO:0000269|PubMed:11714716, ECO:0000269|PubMed:16314521, ECO:0000269|PubMed:16857593, ECO:0000269|PubMed:18984161, ECO:0000269|PubMed:19377484, ECO:0000269|PubMed:19750007, ECO:0000269|PubMed:20513430, ECO:0000269|PubMed:25911097, ECO:0000269|PubMed:27507887, ECO:0000269|PubMed:27834343, ECO:0000269|PubMed:27881600, ECO:0000269|PubMed:27881601, ECO:0000269|PubMed:33963192, ECO:0000269|Ref.27}.

Molecular Weight: 168.6 kDa

UniProt: [Q8TEQ6](#)

Pathways: [Ribonucleoprotein Complex Subunit Organization](#)

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 though.

Comment: ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from *Nicotiana tabacum* c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications.

During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional

Application Details

components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!

Restrictions: For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer. If you have a special request, please contact us.
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