Datasheet for ABIN3095618

Spastin Protein (SPAST) (AA 1-616) (Strep Tag)

1 Image

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Overview

Quantity:	1 mg
Target:	Spastin (SPAST)
Protein Characteristics:	AA 1-616
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This Spastin protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Sequence:	MNSPGGRGKK KGSGGASNPV PPRPPPPCLA PAPPAAGPAP PPESPHKRNL YYFSYPLFVG FALLRLVAFH LGLLFVWLCQ RFSRALMAAK RSSGAAPAPA SASAPAPVPG GEAERVRVFH KQAFEYISIA LRIDEDEKAG QKEQAVEWYK KGIEELEKGI AVIVTGQGEQ CERARRLQAK MMTNLVMAKD RLQLLEKMQP VLPFSKSQTD VYNDSTNLAC RNGHLQSESG AVPKRKDPLT HTSNSLPRSK TVMKTGSAGL SGHHRAPSYS GLSMVSGVKQ GSGPAPTTHK GTPKTNRTNK PSTPTTATRK KKDLKNFRNV DSNLANLIMN EIVDNGTAVK FDDIAGQDLA KQALQEIVIL PSLRPELFTG LRAPARGLLL FGPPGNGKTM LAKAVAAESN ATFFNISAAS LTSKYVGEGE KLVRALFAVA RELQPSIIFI DEVDSLLCER REGEHDASRR LKTEFLIEFD GVQSAGDDRV LVMGATNRPQ ELDEAVLRRF IKRVYVSLPN EETRLLLLKN LLCKQGSPLT QKELAQLARM TDGYSGSDLT ALAKDAALGP IRELKPEQVK NMSASEMRNI RLSDFTESLK KIKRSVSPQT LEAYIRWNKD FGDTTV **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. • 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

Product Details

	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:	Spastin (SPAST)
Alternative Name:	SPAST (SPAST Products)
Background:	Spastin (EC 5.6.1.1) (Spastic paraplegia 4 protein),FUNCTION: ATP-dependent microtubule severing protein that specifically recognizes and cuts microtubules that are polyglutamylated (PubMed:11809724, PubMed:15716377, PubMed:16219033, PubMed:17389232, PubMed:20530212, PubMed:22637577, PubMed:26875866). Preferentially recognizes and acts on microtubules decorated with short polyglutamate tails: severing activity increases as the number of glutamates per tubulin rises from one to eight, but decreases beyond this glutamylation threshold (PubMed:26875866). Severing activity is not dependent on tubulin acetylation or detyrosination (PubMed:26875866). Microtubule severing promotes reorganization of cellular microtubule arrays and the release of microtubules from the centrosome following nucleation. It is critical for the biogenesis and maintenance of complex microtubule arrays in axons, spindles and cilia. SPAST is involved in abscission step of cytokinesis and nuclear envelope reassembly during anaphase in cooperation with the ESCRT-III complex (PubMed:19000169, PubMed:21310966, PubMed:26040712). Recruited at the midbody, probably by IST1, and participates in membrane fission during abscission together with the ESCRT-III complex (PubMed:21310966). Recruited to the nuclear membrane by IST1 and mediates microtubule severing, promoting nuclear envelope sealing and mitotic spindle disassembly during late anaphase (PubMed:26040712). Required for membrane traffic from the endoplasmic reticulum (ER) to the Golgi and endosome recycling (PubMed:23897888). Recruited by IST1 to endosomes and regulates early endosomal tubulation and recycling by mediating microtubule severing (PubMed:23897888). Probably plays a role in axon growth and the formation of axonal branches (PubMed:15716377). {ECO:0000255|HAMAP-Rule:MF_03021, ECO:0000269|PubMed:11809724, ECO:0000269|PubMed:15716377, ECO:0000269|PubMed:16219033, ECO:0000269|PubMed:17389232,

Target Details

	ECO:0000269|PubMed:19000169, ECO:0000269|PubMed:20530212, ECO:0000269|PubMed:21310966, ECO:0000269|PubMed:22637577, ECO:0000269|PubMed:23897888, ECO:0000269|PubMed:26040712, ECO:0000269|PubMed:26875866}., FUNCTION: [Isoform 1]: Involved in lipid metabolism by regulating the size and distribution of lipid droplets. {ECO:0000269|PubMed:25875445}.
Molecular Weight:	67.2 kDa
UniProt:	Q9UBP0
Pathways:	Microtubule Dynamics, M Phase, Regulation of Cell Size

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 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.

Handling

Expiry Date:	Unlimited (if stored properly)

Images

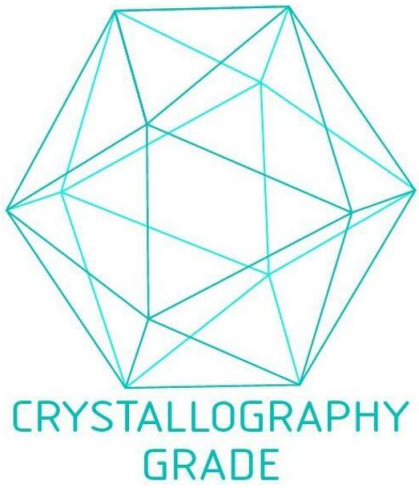

Image 1. „Crystallography Grade“ protein due to multi-step, protein-specific purification process