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Datasheet for ABIN3137398

Spastin Protein (SPAST) (AA 1-614) (His tag)

1 Image

Overview

Quantity:	1 mg
Target:	Spastin (SPAST)
Protein Characteristics:	AA 1-614
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This Spastin protein is labelled with His tag.
Application:	ELISA, Western Blotting (WB), Crystallization (Crys), SDS-PAGE (SDS)

Product Details

Sequence: MSSPAGRRKK KGSGGASPAP ARPPPPAAVP APAAGPAPAA GSPPKRNPS FSSPLVVGFA
 LLRLLACHLG LLFAWLCQRF SRALMAAKRS SGTAPAPASP SPPEPGPGGE AESVRVFHKQ
 AFEYISIALR IDEEEKAGQK EQAVEWYKKG IEELEKGIIV IVTGQGEQYE RARRLQAKMM
 TNLVMAKDRL QLLEKLQPV LQFSKSQTDVY NESTNLTCRN GHLQSESGAV PKRKDPLTHA
 SNSLPRSKTV LKSGSAGLSG HHRAPSCSGL SMVSGARPGP GPAATTHKGT PKPNRTNKPS
 TPTTAVRKKK DLKNFRNVDS NLANLIMNEI VDNGTAVKFD DIAGQELAKQ ALQEIVILPS
 LRPELFTGLR APARGLLLF GPPNGKTM LA KAVAAESNAT FFNISAASLT SKYVGEGEKL
 VRALFAVARE LQPSIIFIDE VDSLLCERRE GEHDASRRLK TEFLIEFDGV QSAGDDRVLV
 MGATNRPQEL DEAVLRRFIK RYVYVSLPNEE TRLLLLKNLL CKQGSPLTQK ELAQLARMTD
 GYSGDLTAL AKDAALGPIR ELKPEQVKNM SASEMRNIRL SDFTESLKKI KRSVSPQTL E
 AYIRWNKDFG DTTV

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 Spast 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.

Grade:

Crystallography grade

Target Details

Target:	Spastin (SPAST)
Alternative Name:	Spast (SPAST Products)
Background:	<p>ATP-dependent microtubule severing protein that specifically recognizes and cuts microtubules that are polyglutamylated (PubMed:19141076 PubMed:20530212). 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 (By similarity). Severing activity is not dependent on tubulin acetylation or detyrosination (By similarity). Microtubule severing promotes reorganization of cellular microtubule arrays and the release of microtubules from the centrosome following nucleation (By similarity). It is critical for the biogenesis and maintenance of complex microtubule arrays in axons, spindles and cilia (By similarity). SPAST is involved in abscission step of cytokinesis and nuclear envelope reassembly during anaphase in cooperation with the ESCRT-III complex (By similarity). Recruited at the midbody, probably by IST1, and participates to membrane fission during abscission together with the ESCRT-III complex (By similarity). Recruited to the nuclear membrane by IST1 and mediates microtubule severing, promoting nuclear envelope sealing and mitotic spindle disassembly during late anaphase (By similarity). Required for membrane traffic from the endoplasmic reticulum (ER) to the Golgi and endosome recycling (By similarity). Recruited by IST1 to endosomes and regulates early endosomal tubulation and recycling by mediating microtubule severing (By similarity). Probably plays a role in axon growth and the formation of axonal branches (PubMed:18234839). {ECO:0000250 UniProtKB:Q9UBP0, ECO:0000255 HAMAP-Rule:MF_03021, ECO:0000269 PubMed:18234839, ECO:0000269 PubMed:19141076, ECO:0000269 PubMed:20530212}. Isoform 1: Involved in lipid metabolism by regulating the size and distribution of lipid droplets. {ECO:0000250 UniProtKB:Q9UBP0}.</p>
Molecular Weight:	67.4 kDa Including tag.
UniProt:	Q9QYY8
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:	Protein has not been tested for activity yet. In cases in which it is highly likely that the

Application Details

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