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Datasheet for ABIN3135300  
**GRB10 Protein (AA 1-621) (Strep Tag)**

### Overview

Quantity:	1 mg
Target:	GRB10
Protein Characteristics:	AA 1-621
Origin:	Mouse
Source:	Tobacco ( <i>Nicotiana tabacum</i> )
Protein Type:	Recombinant
Purification tag / Conjugate:	This GRB10 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

### Product Details

Sequence: MNNDINSSVE SLNSACNMQS DTDAPLLED GQHASNQGAA SSSRGQPQAS PRQKMQRSQP  
VHILRRLQEE DQQLRTASLP AIPNPFPELT GAAPGSPPSV APSSLPPPPS QPPAKHCGRC  
EKWIPGENTR GNGKRKIWRW QFPPGFQLSK LTRPGLWTKT TARFSKKQPK NQCPTDTVNP  
VARMPTSQME KLRLRKDVKV FSEDGTSKVV EILTDMTARD LCQLLVYKSH CVDDNSWTLV  
EHHPQLGLER CLEDHEIVVQ VESTMPSESK FLFRKNYAKY EFFKNPVNFF PDQMVNWCQQ  
SNGGQAQLLQ NFLNTSSCPE IQGFLQVKEV GRKSWKKLYV CLRRSGLYYS TKGTSKEPRH  
LQLLADLEES SIFYLIAGKK QYNAPNEHGM CIKPNKAKTE MKELRLLCAE DEQIRTCWMT  
AFRLLKYGML LYQNYRIPQR KGLPPPFNAP MRSVSENSLV AMDFSGQIGR VIDNPAAEQS  
AALEEGHAWR KRSTRMNILS SQSPLHPSTL NAVIHRTOHW FHGRISREES HRIIKQOGLV  
DGLFLLRDSQ SNPKAFVLT CHHQKIKNFQ ILPCEDDGQT FFTLDDGNTK FSDLIQLVDF  
YQLNKGVLPC KLKHH CIRVA L

**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.**

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### 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.

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### 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
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## Product Details

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- 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.

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Purity:  $\geq 80\%$  as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.

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Endotoxin Level: Low Endotoxin less than 1 EU/mg (< 0.1 ng/mg)

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Grade: Crystallography grade

## Target Details

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Target: GRB10

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Alternative Name: Grb10 ([GRB10 Products](#))

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Background: Growth factor receptor-bound protein 10 (GRB10 adapter protein) (Maternally expressed gene 1 protein),FUNCTION: Adapter protein which modulates coupling of a number of cell surface receptor kinases with specific signaling pathways. Binds to, and suppress signals from, activated receptors tyrosine kinases, including the insulin (INSR) and insulin-like growth factor (IGF1R) receptors. The inhibitory effect can be achieved by 2 mechanisms: interference with the signaling pathway and increased receptor degradation. Delays and reduces AKT1 phosphorylation in response to insulin stimulation. Blocks association between INSR and IRS1 and IRS2 and prevents insulin-stimulated IRS1 and IRS2 tyrosine phosphorylation. Recruits NEDD4 to IGF1R, leading to IGF1R ubiquitination, increased internalization and degradation by both the proteasomal and lysosomal pathways. A similar role in the mediation of ubiquitination has also been suggested with INSR. Negatively regulates Wnt signaling by interacting with LRP6 intracellular portion and interfering with the binding of AXIN1 to LRP6. Positive regulator of the KDR/VEGFR-2 signaling pathway. May inhibit NEDD4-mediated degradation of KDR/VEGFR-2. {ECO:0000269|PubMed:12697834, ECO:0000269|PubMed:12829789, ECO:0000269|PubMed:15664450, ECO:0000269|PubMed:17376403, ECO:0000269|PubMed:18286479}.

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Molecular Weight: 70.6 kDa

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UniProt: [Q60760](#)

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Pathways: [Regulation of Carbohydrate Metabolic Process](#), [Signaling Events mediated by VEGFR1 and VEGFR2](#)

## 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.

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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!

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**Restrictions:** For Research Use only

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## Handling

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**Format:** Liquid

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

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**Handling Advice:** Avoid repeated freeze-thaw cycles.

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**Storage:** -80 °C

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**Storage Comment:** Store at -80°C.

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**Expiry Date:** Unlimited (if stored properly)

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