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Datasheet for ABIN3127079

**GRAMD1A Protein (AA 1-722) (Strep Tag)**

## Overview

Quantity:	1 mg
Target:	GRAMD1A
Protein Characteristics:	AA 1-722
Origin:	Mouse
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This GRAMD1A protein is labelled with Strep Tag.
Application:	ELISA, SDS-PAGE (SDS), Western Blotting (WB)

## Product Details

Sequence:	MFDTPHSGR SSPSSPSLR KRLQLLPPIR PPPASEPEPG TMVEKGSDDSS SEKSGVSGTL STQSLGSRNF IRNSKKMQSW YSMCPTYKQ RNEDFRKLFS KLPEAERLIV DYSCALQREI LLQGRLYLSE NWICFYSNIF RWETTISIQL KEVTCLKKEK TAKLIPNAIQ ICTESEKHFF TSFGARDRCF LLIFRLWQNA LLEKTLSPRE LWHLVHQCYG SELGLTSEDE DYVCPLQLNG LGSPKEVGDV IALSDISPSG AADHSQEPSP VGSRRGRVTP NLSRASSDAD HGAEEDKEEQ TDGLDASSSQ TVTPVAEPLS SEPTPPDGPT SSLGPLDLLS REELLTDTSN SSSSTGEEGD LAALLPDL SG RLLINSVFHM GAERLQQMLF SDSPFLQGFL QQRKFTDVT L SPWSSDSKCH QRRVLT Y TIP ISNQLGPKSA SVVETQTLFR RGPQAGGCVV DSEVLTQGIP YQDYFYTAHR YCILGLARNK ARLRVSEIR YRKQPWSLVK SLIEKNSWSG IEDYFHHLDR ELAKAEKLSL EEGGKDTRGL LSGLRRRKRP LSWRGHRDGP QHPDPDPCTQ TSMHTSGSLS SRFSEPSVDQ GPGAGIPSAL VLISIVLIVL IALNALLFYR LWSLERTAHT FESWHS LALA KGKFPQTATE WAEILALQKH FHSVEVHKWR QILRASVELL DEMKFSLEKL HQGITVPDPP LDTQPQPD DS FP
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**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.

### Purification:

Two step purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®):

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## Product Details

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:  $\geq 80\%$  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: GRAMD1A

Alternative Name: Gramd1a ([GRAMD1A Products](#))

Background: Protein Aster-A (GRAM domain-containing protein 1A),FUNCTION: Cholesterol transporter that mediates non-vesicular transport of cholesterol from the plasma membrane (PM) to the endoplasmic reticulum (ER) (PubMed:30220461). Contains unique domains for binding cholesterol and the PM, thereby serving as a molecular bridge for the transfer of cholesterol from the PM to the ER (PubMed:30220461). Plays a crucial role in cholesterol homeostasis and has the unique ability to localize to the PM based on the level of membrane cholesterol (PubMed:30220461). In lipid-poor conditions localizes to the ER membrane and in response to excess cholesterol in the PM is recruited to the endoplasmic reticulum-plasma membrane contact sites (EPCS) which is mediated by the GRAM domain (PubMed:30220461). At the EPCS, the sterol-binding VAST/ASTER domain binds to the cholesterol in the PM and facilitates its transfer from the PM to ER (PubMed:30220461). May play a role in tumor progression (PubMed:27585821). Plays a role in autophagy regulation and is required for biogenesis of the autophagosome. This function in autophagy requires its cholesterol-transfer activity (By similarity). {ECO:0000250|UniProtKB:Q96CP6, ECO:0000269|PubMed:27585821, ECO:0000269|PubMed:30220461}.

Molecular Weight: 80.7 kDa

UniProt: [Q8VEF1](#)

## 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

Application Details

	guarantee though.
Comment:	<p>ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from <i>Nicotiana tabacum</i> 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.</p> <p>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!</p>
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)