

Datasheet for ABIN3087471

RRAGD Protein (AA 1-400) (Strep Tag)



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Overview

Quantity:	1 mg
Target:	RRAGD
Protein Characteristics:	AA 1-400
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This RRAGD protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Sequence: MSQVLGKPQP QDEDDAEEEE EEDELVGLAD YDGGPDSSDA DPDSGTEEGV LDFSDPFSTE
VKPRILLMGL RRSKGSSIQK VVFHKMSPNE TLFLESTNKI CREDVSNSSF VNFQIWDFPG
QIDFFDPTFD YEMIFRGTTGA LIFVIDSQDD YMEALARLHL TVTRAYKVNT DINFEVFIHK
VDGLSDDHKL ETQRDIHQRA NDDLADAGLE KIHLSFYLTIS IYDHSIFEAF SKVVQKLIPQ
LPTLENLLNI FISNSGIEKA FLFDVVSKIY IATDSTPVDM QTYELCCDMI DVVIDISCIY
GLKEDGAGTP YDKESTAIK LNNTTVLYLK EVTKFLALVC FVREESFERK GLIDYNFHC
RKAIHEVFEV RMKVVKSRKV QNRLQKKKRA TPNGTPRVLL

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 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.

Product Details

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)

Target Details

Target:	RRAGD
Alternative Name:	RRAGD (RRAGD Products)
Background:	<p>Ras-related GTP-binding protein D (Rag D) (RagD) (EC 3.6.5.-),FUNCTION: Guanine nucleotide-binding protein that plays a crucial role in the cellular response to amino acid availability through regulation of the mTORC1 signaling cascade (PubMed:20381137, PubMed:24095279, PubMed:34607910). Forms heterodimeric Rag complexes with RagA/RRAGA or RagB/RRAGB and cycles between an inactive GTP-bound and an active GDP-bound form: RagD/RRAGD is in its active form when GDP-bound RagD/RRAGD forms a complex with GTP-bound RagA/RRAGA (or RagB/RRAGB) and in an inactive form when GTP-bound RagD/RRAGD heterodimerizes with GDP-bound RagA/RRAGA (or RagB/RRAGB) (PubMed:24095279). In its active form, promotes the recruitment of mTORC1 to the lysosomes and its subsequent activation by the GTPase RHEB (PubMed:20381137, PubMed:24095279). This is a crucial step in the activation of the MTOR signaling cascade by amino acids (PubMed:20381137, PubMed:24095279). Also plays a central role in the non-canonical mTORC1 complex, which acts independently of RHEB and specifically mediates phosphorylation of MiT/TFE factors TFEB and TFE3: GDP-bound RagD/RRAGD mediates recruitment of MiT/TFE factors TFEB and TFE3 (PubMed:32612235). {ECO:0000269 PubMed:20381137, ECO:0000269 PubMed:24095279, ECO:0000269 PubMed:32612235, ECO:0000269 PubMed:34607910}.</p>
Molecular Weight:	45.6 kDa
UniProt:	Q9NQL2

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 <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.

Application 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!

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)