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Datasheet for ABIN3128361

**RIOK2 Protein (AA 1-547) (Strep Tag)**

## Overview

|                               |  |
|-------------------------------|--|
| Quantity:                     | 1 mg   |
| Target:                       | RIOK2  |
| Protein Characteristics:      | AA 1-547                                       |
| Origin:                       | Mouse  |
| Source:                       | Tobacco (Nicotiana tabacum)                    |
| Protein Type:                 | Recombinant                                    |
| Purification tag / Conjugate: | This RIOK2 protein is labelled with Strep Tag. |
| Application:                  | ELISA, Western Blotting (WB), SDS-PAGE (SDS)   |

## Product Details

Sequence: MGKVNVAKL R YMSRDDFRVL TAVEMGMKNH EIVPCSLIAS IASLKHGGCN KILRELVKHK  
LIAWERTKT V QGYRLTNAGY DY LALKTLSS RQVVESVGNQ MGVGKESDIY IVANEAGQQL  
ALKLHRLGR T SFRNLKNKRD YHKHRHNVSW LYLSRLSAMK EFAYMKALYE RKFPVPKPID  
YNRHAVIMEL INGYPLCQIH HVEDPASVYD EAMELIVKLG NHGLIHGDFN EFNLM LDKDD  
HITMIDFPQM VSTSHPN AEW YFDRDVKCIR EFFMKRFSYE SELYPTFSDI RKEDSLDVEV  
SASGYTKEMQ ADDELLHPVG PDDKITETEE DSDFTFSDEE MLEKAKVWRS ELEKEADPAD  
ESGGSWCCSS TDSKQIKDGG LPEESAHVSS FEVTALSQAV EEMERQVLPH RSVTEFSEES  
RRTENDGQPG QRSPAGSEDC DDEPPHLIAL SSVNREFRPF RDEESMSSVT RHRTRTL SVT  
SAGSALSCST IPPELVKQKV KRQLTRQKA AARRRLQKGE ANVFTKQRRE NMQNIKSSLE  
AASFWGD

**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 capture material. Eluate fractions are analyzed by SDS-PAGE.

## Product Details

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:           | RIOK2   |
| Alternative Name: | Riok2 ( <a href="#">RIOK2 Products</a> )  |
| Background:       | Serine/threonine-protein kinase RIO2 (EC 2.7.11.1) (RIO kinase 2),FUNCTION: Serine/threonine-protein kinase involved in the final steps of cytoplasmic maturation of the 40S ribosomal subunit. Involved in export of the 40S pre-ribosome particles (pre-40S) from the nucleus to the cytoplasm. Its kinase activity is required for the release of NOB1, PNO1 and LTV1 from the late pre-40S and the processing of 18S-E pre-rRNA to the mature 18S rRNA. May regulate the timing of the metaphase-anaphase transition during mitotic progression, and its phosphorylation, may regulate this function. {ECO:0000250 UniProtKB:Q9BVS4}. |
| Molecular Weight: | 62.5 kDa  |
| UniProt:          | <a href="#">Q9CQS5</a>  |

## 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:           | <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</p> |

Application Details

|               |   |
|---------------|---|
|               | 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)   |