

Datasheet for ABIN3096347
VRK1 Protein (AA 1-396) (Strep Tag)



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1 Image

Overview

| | |
|-------------------------------|---|
| Quantity: | 1 mg |
| Target: | VRK1 |
| Protein Characteristics: | AA 1-396 |
| Origin: | Human |
| Source: | Tobacco (Nicotiana tabacum) |
| Protein Type: | Recombinant |
| Purification tag / Conjugate: | This VRK1 protein is labelled with Strep Tag. |
| Application: | Western Blotting (WB), SDS-PAGE (SDS), ELISA |

Product Details

Sequence: MPRVKAAQAG RQSSAKRHLA EQFAVGEIIT DMAKKEWKVG LPIGQGGFGC IYLADMNSSE
SVGSDAPCVV KVEPSDNGPL FTELKFYQRA AKPEQIQKWI RTRKLYLGV PKYWGSGSLHD
KNGKSYRFMI MDRFGSDLQK IYEANAKRFS RKTVLQLSLR ILDILEYIHE HEYVHGDIKA
SNLLLNKPN DQVYLVYGL AYRYCPEGVH KEYKEDPKRC HDGTIEFTSI DAHNGVAPSR
RGDLEILGYC MIQWLTGHLP WEDNLKDPKY VRDSKIRYRE NIASLMDKCF PEKNKPGEIA
KYMETVKLLD YTEKPLYENL RDILLQGLKA IGSKDDGKLD LSVVENGGLK AKTITKKRKK
EIEESKEPGV EDTEWSNTQT EEAIQTRSRT RKR VQK

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

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| 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

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|-------------------|---|
| Target: | VRK1 |
| Alternative Name: | VRK1 (VRK1 Products) |
| Background: | <p>Serine/threonine-protein kinase VRK1 (EC 2.7.11.1) (Vaccinia-related kinase 1),FUNCTION: Serine/threonine kinase involved in cell cycle, nuclear condensation and transcription regulation (PubMed:14645249, PubMed:18617507, PubMed:19103756). Involved in Golgi disassembly during the cell cycle: following phosphorylation by PLK3 during mitosis, required to induce Golgi fragmentation (PubMed:19103756). Phosphorylates 'Thr-18' of p53/TP53 and may thereby prevent the interaction between p53/TP53 and MDM2 (PubMed:10951572). Phosphorylates KAT5 in response to DNA damage, promoting KAT5 association with chromatin and histone acetyltransferase activity (PubMed:33076429). Phosphorylates BANF1: disrupts its ability to bind DNA, reduces its binding to LEM domain-containing proteins and causes its relocalization from the nucleus to the cytoplasm (PubMed:16495336). Phosphorylates ATF2 which activates its transcriptional activity (PubMed:15105425). {ECO:0000269 PubMed:10951572, ECO:0000269 PubMed:14645249, ECO:0000269 PubMed:15105425, ECO:0000269 PubMed:16495336, ECO:0000269 PubMed:18617507, ECO:0000269 PubMed:19103756, ECO:0000269 PubMed:33076429}.</p> |
| Molecular Weight: | 45.5 kDa |
| UniProt: | Q99986 |

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. |
| 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)

Images



Image 1. „Crystallography Grade“ protein due to multi-step, protein-specific purification process