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Datasheet for ABIN3116236

VRK2 Protein (AA 1-508) (Strep Tag)

Overview

Quantity:	1 mg
Target:	VRK2
Protein Characteristics:	AA 1-508
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This VRK2 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

Product Details

Sequence: MPPKRNEKYK LPIPFPEGKV LDDMEGNQWV LGKKIGSGGF GLIYLAFTN KPEKDARHVV
KVEYQENGPL FSELKFYQRV AKKDCIKKWI ERKQLDYLGI PLFYGSGLTE FKGRSYRFMV
MERLGIDLQK ISGQNGTFKK STVLQLGIRM LDVLEYIHEN EYVHGDIAA NLLGYKNPD
QVYLADYGLS YRYCPNGNHK QYQENPRKGH NGTIEFTSLD AHKGVALSRR SDVEILGYCM
LRWLCGKLPW EQNLKDPVAV QTAKTNLLDE LPQSVLKWAP SGSSCCEIAQ FLVCAHSLAY
DEKPNYQALK KILNPHGIPL GPLDFSTKGQ SINVHTPNSQ KVDSQKAATK QVNKAHNRLI
EKKVHSERSA ESCATWKVQK EEKLIGLMNN EAAQESTRRR QKYQESQEPL NEVNSFPQKI
SYTQFPNSFY EPHQDFTSPD IFKKSRSPSW YKYTSTVSTG ITDLESSTGL WPTISQFTLS
EETNADVYYY RIIPVLLML VFLALFFL

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

Product Details

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:	VRK2
Alternative Name:	VRK2 (VRK2 Products)
Background:	<p>Serine/threonine-protein kinase VRK2 (EC 2.7.11.1) (Vaccinia-related kinase 2),FUNCTION: Serine/threonine kinase that regulates several signal transduction pathways (PubMed:16704422, PubMed:14645249, PubMed:16495336, PubMed:17709393, PubMed:18617507, PubMed:18286207, PubMed:20679487). Isoform 1 modulates the stress response to hypoxia and cytokines, such as interleukin-1 beta (IL1B) and this is dependent on its interaction with MAPK8IP1, which assembles mitogen-activated protein kinase (MAPK) complexes (PubMed:17709393). Inhibition of signal transmission mediated by the assembly of MAPK8IP1-MAPK complexes reduces JNK phosphorylation and JUN-dependent transcription (PubMed:18286207). Phosphorylates 'Thr-18' of p53/TP53, histone H3, and may also phosphorylate MAPK8IP1 (PubMed:16704422). Phosphorylates BANF1 and disrupts its ability to bind DNA and reduces its binding to LEM domain-containing proteins (PubMed:16495336). Down-regulates the transactivation of transcription induced by ERBB2, HRAS, BRAF, and MEK1 (PubMed:20679487). Blocks the phosphorylation of ERK in response to ERBB2 and HRAS (PubMed:20679487). Can also phosphorylate the following substrates that are commonly used to establish in vitro kinase activity: casein, MBP and histone H2B, but it is not sure that this is physiologically relevant (PubMed:14645249). {ECO:0000269 PubMed:14645249, ECO:0000269 PubMed:16495336, ECO:0000269 PubMed:16704422, ECO:0000269 PubMed:17709393, ECO:0000269 PubMed:18286207, ECO:0000269 PubMed:18617507, ECO:0000269 PubMed:20679487}., FUNCTION: [Isoform 2]: Phosphorylates 'Thr-18' of p53/TP53, as well as histone H3. Reduces p53/TP53 ubiquitination by MDM2, promotes p53/TP53 acetylation by EP300 and thereby increases p53/TP53 stability and activity. {ECO:0000269 PubMed:16704422}.</p>
Molecular Weight:	58.1 kDa
UniProt:	Q86Y07

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.
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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>
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Restrictions:	For Research Use only
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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)