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ROCK2 Protein (AA 1-1388) (Strep Tag)



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Overview

Quantity:	1 mg
Target:	ROCK2
Protein Characteristics:	AA 1-1388
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This ROCK2 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

Product Details

Sequence:

MSRPPPTGKM PGAPETAPGD GAGASRQRKL EALIRDPRSP INVESLLDGL NSLVLDLDFP
ALRKNKNIDN FLNRYEKIVK KIRGLQMKAE DYDVVKVIGR GAFGEVQLVR HKASQKVYAM
KLLSKFEMIK RSDSAFFWEE RDIMAFANSP WVVQLFYAFQ DDRYLYMVME YMPGGDLVNL
MSNYDVPEKW AKFYTAEVVL ALDAIHSMGL IHRDVKPDNM LLDKHGHLKL ADFGTCMKMD
ETGMVHCDTA VGTPDYISPE VLKSQGGDGF YGRECDWWSV GVFLYEMLVG DTPFYADSLV
GTYSKIMDHK NSLCFPEDAE ISKHAKNLIC AFLTDREVRL GRNGVEEIRQ HPFFKNDQWH
WDNIRETAAP VVPELSSDID SSNFDDIEDD KGDVETFPIP KAFVGNQLPF IGFTYYRENL
LLSDSPSCRE TDSIQSRKNE ESQEIQKKLY TLEEHLSNEM QAKEELEQKC KSVNTRLEKT
AKELEEEITL RKSVESALRQ LEREKALLQH KNAEYQRKAD HEADKKRNLE NDVNSLKDQL
EDLKKRNQNS QISTEKVNQL QRQLDETNAL LRTESDTAAR LRKTQAESSK QIQQLESNNR
DLQDKNCLLE TAKLKLEKEF INLQSALESE RRDRTHGSEI INDLQGRICG LEEDLKNGKI
LLAKVELEKR QLQERFTDLE KEKSNMEIDM TYQLKVIQQS LEQEEAEHKA TKARLADKNK

IYESIEEAKS EAMKEMEKKL LEERTLKQKV ENLLLEAEKR CSLLDCDLKQ SQQKINELLK
QKDVLNEDVR NLTLKIEQET QKRCLTQNDL KMQTQQVNTL KMSEKQLKQE NNHLMEMKMN
LEKQNAELRK ERQDADGQMK ELQDQLEAEQ YFSTLYKTQV RELKEECEEK TKLGKELQQK
KQELQDERDS LAAQLEITLT KADSEQLARS IAEEQYSDLE KEKIMKELEI KEMMARHKQE
LTEKDATIAS LEETNRTLTS DVANLANEKE ELNNKLKDVQ EQLSRLKDEE ISAAAIKAQF
EKQLLTERTL KTQAVNKLAE IMNRKEPVKR GNDTDVRRKE KENRKLHMEL KSEREKLTQQ
MIKYQKELNE MQAQIAEESQ IRIELQMTLD SKDSDIEQLR SQLQALHIGL DSSSIGSGPG
DAEADDGFPE SRLEGWLSLP VRNNTKKFGW VKKYVIVSSK KILFYDSEQD KEQSNPYMVL
DIDKLFHVRP VTQTDVYRAD AKEIPRIFQI LYANEGESKK EQEFPVEPVG EKSNYICHKG
HEFIPTLYHF PTNCEACMKP LWHMFKPPPA LECRRCHIKC HKDHMDKKEE IIAPCKVYYD
ISTAKNLLLL ANSTEEQQKW VSRLVKKIPK KPPAPDPFAR SSPRTSMKIQ QNQSIRRPSR
QLAPNKPS

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 posttranslational 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.
- 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)

Target Details

Target:

ROCK2

Alternative Name:

ROCK2 (ROCK2 Products)

Background:

Rho-associated protein kinase 2 (EC 2.7.11.1) (Rho kinase 2) (Rho-associated, coiled-coil-containing protein kinase 2) (Rho-associated, coiled-coil-containing protein kinase II) (ROCK-II) (p164 ROCK-2),FUNCTION: Protein kinase which is a key regulator of actin cytoskeleton and cell polarity. Involved in regulation of smooth muscle contraction, actin cytoskeleton organization, stress fiber and focal adhesion formation, neurite retraction, cell adhesion and motility via phosphorylation of ADD1, BRCA2, CNN1, EZR, DPYSL2, EP300, MSN, MYL9/MLC2, NPM1, RDX, PPP1R12A and VIM. Phosphorylates SORL1 and IRF4. Acts as a negative regulator of VEGF-induced angiogenic endothelial cell activation. Positively regulates the activation of p42/MAPK1-p44/MAPK3 and of p90RSK/RPS6KA1 during myogenic differentiation. Plays an important role in the timely initiation of centrosome duplication. Inhibits keratinocyte terminal differentiation. May regulate closure of the eyelids and ventral body wall through organization

of actomyosin bundles. Plays a critical role in the regulation of spine and synaptic properties in
the hippocampus. Plays an important role in generating the circadian rhythm of the aortic
myofilament Ca(2+) sensitivity and vascular contractility by modulating the myosin light chain
phosphorylation. {ECO:0000269 PubMed:10579722, ECO:0000269 PubMed:15699075,
ECO:0000269 PubMed:16574662, ECO:0000269 PubMed:17015463,
ECO:0000269 PubMed:19131646, ECO:0000269 PubMed:19997641,
ECO:0000269 PubMed:21084279, ECO:0000269 PubMed:21147781}.

Molecular Weight:	160.9 kDa
UniProt:	075116
Pathways:	Microtubule Dynamics, WNT Signaling, Tube Formation

Application Details

Comment:

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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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.

Handling

Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)