Datasheet for ABIN3095022

# RACGAP1 Protein (AA 1-632) (Strep Tag)

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## Overview

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| Quantity: | 1 mg |
| Target: | RACGAP1 |
| Protein Characteristics: | AA 1-632 |
| Origin: | Human |
| Source: | Tobacco (Nicotiana tabacum) |
| Protein Type: | Recombinant |
| Purification tag / Conjugate: | This RACGAP1 protein is labelled with Strep Tag. |
| Application: | Western Blotting (WB), SDS-PAGE (SDS), ELISA |

## Product Details

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| Sequence: | MDTMMLNVRN LFEQLVRRVE ILSEGNEVQF IQLAKDFEDF RKKWQRTDHE LGKYKDLLMK AETERSALDV KLKHARNQVD VEIKRRQRAE ADCEKLERQI QLIREMLMCD TSGSIQLSEE QKSALAFLNR GQPSSSNAGN KRLSTIDESG SILSDISFDK TDESLDWDSS LVKTFKLKKR EKRRSTSRQF VDGPPGPVKK TRSIGSAVDQ GNESIVAKTT VTVPNDGGPI EAVSTIETVP YWTRSRRKTG TLQPWNSDST LNSRQLEPRT ETDSVGTPQS NGGMRLHDFV SKTVIKPESC VPCGKRIKFG KLSLKCRDCR VVSHPECRDR CPLPCIPTLI GTPVKIGEGM LADFVSQTSP MIPSIVVHCV NEIEQRGLTE TGLYRISGCD RTVKELKEKF LRVKTVPLLS KVDDIHAICS LLKDFLRNLK EPLLTFRLNR AFMEAAEITD EDNSIAAMYQ AVGELPQANR DTLAFLMIHL QRVAQSPHTK MDVANLAKVF GPTIVAHAVP NPDPVTMLQD IKRQPKVVER LLSLPLEYWS QFMMVEQENI DPLHVIENSN AFSTPQTPDI KVSLLGPVTT PEHQLLKTPS SSSLSQRVRS TLTKNTPRFG SKSKSATNLG RQGNFFASPM LK<br>**Sequence without tag. The proposed Strep-Tag is based on experience s with the expression** |

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| | **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:<br>• Made in Germany - from design to production - by highly experienced protein experts.<br>• Protein expressed with ALiCE® and purified by multi-step, protein-specific process to ensure correct folding and modification.<br>• These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed).<br>• State-of-the-art algorithm used for plasmid design (Gene synthesis).<br><br>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.<br>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.<br><br>Expression System:<br>• 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.<br>• 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!<br><br>Concentration:<br>• The concentration of our recombinant proteins is measured using the absorbance at 280nm.<br>• The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.<br>• 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®):<br>1. In a first purification step, the protein is purified from the cleared cell lysate using StrepTag |

## Product Details

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| | capture material. Eluate fractions are analyzed by SDS-PAGE.<br>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) |

## Target Details

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| Target: | RACGAP1 |
| Alternative Name: | RACGAP1 (RACGAP1 Products) |
| Background: | Rac GTPase-activating protein 1 (Male germ cell RacGap) (MgcRacGAP) (Protein CYK4 homolog) (CYK4) (HsCYK-4),FUNCTION: Component of the centralspindlin complex that serves as a microtubule-dependent and Rho-mediated signaling required for the myosin contractile ring formation during the cell cycle cytokinesis. Required for proper attachment of the midbody to the cell membrane during cytokinesis. Sequentially binds to ECT2 and RAB11FIP3 which regulates cleavage furrow ingression and abscission during cytokinesis (PubMed:18511905). Plays key roles in controlling cell growth and differentiation of hematopoietic cells through mechanisms other than regulating Rac GTPase activity (PubMed:10979956). Has a critical role in erythropoiesis (PubMed:34818416). Also involved in the regulation of growth-related processes in adipocytes and myoblasts. May be involved in regulating spermatogenesis and in the RACGAP1 pathway in neuronal proliferation. Shows strong GAP (GTPase activation) activity towards CDC42 and RAC1 and less towards RHOA. Essential for the early stages of embryogenesis. May play a role in regulating cortical activity through RHOA during cytokinesis. May participate in the regulation of sulfate transport in male germ cells. {ECO:0000269\|PubMed:10979956, ECO:0000269\|PubMed:11085985, ECO:0000269\|PubMed:11278976, ECO:0000269\|PubMed:11782313, ECO:0000269\|PubMed:14729465, ECO:0000269\|PubMed:15642749, ECO:0000269\|PubMed:16103226, ECO:0000269\|PubMed:16129829, ECO:0000269\|PubMed:16236794, ECO:0000269\|PubMed:18511905, ECO:0000269\|PubMed:19468300, ECO:0000269\|PubMed:19468302, ECO:0000269\|PubMed:23235882, ECO:0000269\|PubMed:9497316}. |
| Molecular Weight: | 71.0 kDa |
| UniProt: | Q9H0H5 |

## Target Details

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| Pathways: | Regulation of Actin Filament Polymerization, Myometrial Relaxation and Contraction, Regulation of G-Protein Coupled Receptor Protein Signaling, Signaling of Hepatocyte Growth Factor Receptor |

## 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 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.<br>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

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| 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) |