Datasheet for ABIN3095077

RAPGEF2 Protein (AA 1-1499) (Strep Tag)

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Overview

Quantity:	250 µg
Target:	RAPGEF2
Protein Characteristics:	AA 1-1499
Origin:	Human
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This RAPGEF2 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Brand:	AliCE®
Sequence:	MKPLAIPANH GVMGQQEKHS LPADFTKLHL TDSLHPQVTH VSSSHSGCSI TSDSGSSSLS DIYQATESEA GDMDLSGLPE TAVDSEDDDD EEDIERASDP LMSRDIVRDC LEKDPIDRTD DDIEQLLEFM HQLPAFANMT MSVRRELCAV MVFAVVERAG TIVLNDGEEL DSWSVILNGS VEVTYPDGKA EILCMGNSFG VSPTMDKEYM KGVMRTKVDD CQFVCIAQQD YCRILNQVEK NMQKVEEEGE IVMVKEHREL DRTGTRKGHI VIKGTSERLT MHLVEEHSVV DPTFIEDFLL TYRTFLSSPM EVGKKLLEWF NDPSLRDKVT RVVLLWVNNH FNDFEGDPAM TRFLEEFENN LEREKMGGHL RLLNIACAAK AKRRLMTLTK PSREAPLPFI LLGGSEKGFG IFVDSVDSGS KATEAGLKRG DQILEVNGQN FENIQLSKAM EILRNNTHLS ITVKTNLFVF KELLTRLSEE KRNGAPHLPK IGDIKKASRY SIPDLAVDVE QVIGLEKVNK KSKANTVGGR NKLKKILDKT RISILPQKPY NDIGIGQSQD DSIVGLRQTK HIPTALPVSG TLSSSNPDLL QSHHRILDFS ATPDLPDQVL RVFKADQQSR YIMISKDTTA KEVVIQAIRE FAVTATPDQY SLCEVSVTPE

GVIKQRRLPD QLSKLADRIQ LSGRYYLKNN METETLCSDE DAQELLRESQ ISLLQLSTVE VATQLSMRNF ELFRNIEPTE YIDDLFKLRS KTSCANLKRF EEVINQETFW VASEILRETN QLKRMKIIKH FIKIALHCRE CKNFNSMFAI ISGLNLAPVA RLRTTWEKLP NKYEKLFQDL QDLFDPSRNM AKYRNVLNSQ NLQPPIIPLF PVIKKDLTFL HEGNDSKVDG LVNFEKLRMI AKEIRHVGRM ASVNMDPALM FRTRKKKWRS LGSLSQGSTN ATVLDVAQTG GHKKRVRRSS FLNAKKLYED AQMARKVKQY LSNLELEMDE ESLQTLSLQC EPATNTLPKN PGDKKPVKSE TSPVAPRAGS QQKAQSLPQP QQQPPPAHKI NQGLQVPAVS LYPSRKKVPV KDLPPFGINS PQALKKILSL SEEGSLERHK KQAEDTISNA SSQLSSPPTS PQSSPRKGYT LAPSGTVDNF SDSGHSEISS RSSIVSNSSF DSVPVSLHDE RRQRHSVSIV ETNLGMGRME RRTMIEPDQY SLGSYAPMSE GRGLYATATV ISSPSTEELS QDQGDRASLD AADSGRGSWT SCSSGSHDNI QTIQHQRSWE TLPFGHTHFD YSGDPAGLWA SSSHMDQIMF SDHSTKYNRQ NQSRESLEQA QSRASWASST GYWGEDSEGD TGTIKRRGGK DVSIEAESSS LTSVTTEETK PVPMPAHIAV ASSTTKGLIA RKEGRYREPP PTPPGYIGIP ITDFPEGHSH PARKPPDYNV ALQRSRMVAR SSDTAGPSSV QQPHGHPTSS RPVNKPQWHK PNESDPRLAP YQSQGFSTEE DEDEQVSAV

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 in one-step affinity chromatography
- 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 try to ensure that you receive soluble 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

Product Details

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 against its specific reference buffer.
- We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.

Purification:	One-step Strep-tag purification of proteins expressed in Almost Living Cell-Free Expression System (AliCE®).
Purity:	> 70-80 % as determined by SDS PAGE, Western Blot and analytical SEC (HPLC).
Grade:	custom-made

Target Details

Target:	RAPGEF2
Alternative Name:	RAPGEF2 (RAPGEF2 Products)
Background:	Rap guanine nucleotide exchange factor 2 (Cyclic nucleotide ras GEF) (CNrasGEF) (Neural RAP guanine nucleotide exchange protein) (nRap GEP) (PDZ domain-containing guanine nucleotide exchange factor 1) (PDZ-GEF1) (RA-GEF-1) (Ras/Rap1-associating GEF-1),FUNCTION: Functions as a guanine nucleotide exchange factor (GEF), which activates Rap and Ras family of small GTPases by exchanging bound GDP for free GTP in a cAMP-dependent manner. Serves as a link between cell surface receptors and Rap/Ras GTPases in intracellular signaling cascades. Acts also as an effector for Rap1 by direct association with Rap1-GTP thereby leading to the amplification of Rap1-mediated signaling. Shows weak activity on HRAS. It is controversial whether RAPGEF2 binds cAMP and cGMP (PubMed:23800469, PubMed:10801446) or not (PubMed:10608844, PubMed:10548487, PubMed:11359771). Its binding to ligand-activated beta-1 adrenergic receptor ADRB1 leads to the Ras activation through the G(s)-alpha signaling pathway. Involved in the cAMP-induced Ras and Erk1/2 signaling pathway that leads to sustained inhibition of long term melanogenesis by reducing dendrite extension and melanin synthesis. Provides also inhibitory signals for cell proliferation of melanoma cells and promotes their apoptosis in a cAMP-independent nanner. Regulates

Target Details

	cAMP-induced neuritogenesis by mediating the Rap1/B-Raf/ERK signaling through a pathway that is independent on both PKA and RAPGEF3/RAPGEF4. Involved in neuron migration and in the formation of the major forebrain fiber connections forming the corpus callosum, the anterior commissure and the hippocampal commissure during brain development. Involved in neuronal growth factor (NGF)-induced sustained activation of Rap1 at late endosomes and in brain-derived neurotrophic factor (BDNF)-induced axon outgrowth of hippocampal neurons. Plays a role in the regulation of embryonic blood vessel formation and in the establishment of basal junction integrity and endothelial barrier function. May be involved in the regulation of the vascular endothelial growth factor receptor KDR and cadherin CDH5 expression at allantois endothelial cell-cell junctions. {ECO:0000269|PubMed:10548487, ECO:0000269|PubMed:10608844, ECO:0000269|PubMed:10608883, ECO:0000269|PubMed:10801446, ECO:0000269|PubMed:10934204, ECO:0000269|PubMed:11359771, ECO:0000269|PubMed:12391161, ECO:0000269|PubMed:16272156, ECO:0000269|PubMed:17724123, ECO:0000269|PubMed:21840392, ECO:0000269|PubMed:23800469}.
Molecular Weight:	167.4 kDa
UniProt:	Q9Y4G8
Pathways:	Neurotrophin Signaling Pathway

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:	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!
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer. Standard Storage Buffer: PBS pH 7.4, 10 % Glycerol **Might differ depending on protein.**
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months