Datasheet for ABIN3094759

CCDC111 Protein (AA 1-560) (Strep Tag)

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Overview

Quantity:	250 µg
Target:	CCDC111
Protein Characteristics:	AA 1-560
Origin:	Human
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This CCDC111 protein is labelled with Strep Tag.
Application:	ELISA, SDS-PAGE (SDS), Western Blotting (WB)

Product Details

Brand:	AliCE®
Sequence:	MNRKWEAKLK QIEERASHYE RKPLSSVYRP RLSKPEEPPS IWRLFHRQAQ AFNFVKSCKE DVHVFALECK VGDGQRIYLV TTYAEFWFYY KSRKNLLHCY EVIPENAVCK LYFDLEFNKP ANPGADGKKM VALLIEYVCK ALQELYGVNC SAEDVLNLDS STDEKFSRHL IFQLHDVAFK DNIHVGNFLR KILQPALDLL GSEDDDSAPE TTGHGFPHFS EAPARQGFSF NKMFTEKATE ESWTSNSKKL ERLGSAEQSS PDLSFLVVKN NMGEKHLFVD LGVYTRNRNF RLYKSSKIGK RVALEVTEDN KFFPIQSKDV SDEYQYFLSS LVSNVRFSDT LRILTCEPSQ NKQKGVGYFN SIGTSVETIE GFQCSPYPEV DHFVLSLVNK DGIKGGIRRW NYFFPEELLV YDICKYRWCE NIGRAHKSNN IMILVDLKNE VWYQKCHDPV CKAENFKSDC FPLPAEVCLL FLFKEEEEFT TDEADETRSN ETQNPHKPSP SRLSTGASAD AVWDNGIDDA YFLEATEDAE LAEAAENSLL SYNSEVDEIP DELIIEVLQE **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 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:	CCDC111
Alternative Name:	PRIMPOL (CCDC111 Products)
Background:	DNA-directed primase/polymerase protein (hPrimpol1) (EC 2.7.7.-) (Coiled-coil domain-containing protein 111),FUNCTION: DNA primase and DNA polymerase required to tolerate replication-stalling lesions by bypassing them (PubMed:24126761, PubMed:24207056, PubMed:24240614, PubMed:24267451, PubMed:25255211, PubMed:24682820, PubMed:25262353, PubMed:25746449, PubMed:25550423, PubMed:27989484, PubMed:29608762, PubMed:30889508, PubMed:28534480). Required to facilitate mitochondrial and nuclear replication fork progression by initiating de novo DNA synthesis using dNTPs and acting as an error-prone DNA polymerase able to bypass certain DNA lesions (PubMed:24126761, PubMed:24207056, PubMed:24240614, PubMed:24267451, PubMed:25255211, PubMed:24682820, PubMed:25262353, PubMed:25746449, PubMed:25550423, PubMed:27989484, PubMed:29608762, PubMed:30889508, PubMed:30633872, PubMed:28534480). Shows a high capacity to tolerate DNA damage lesions such as 8oxoG and abasic sites in DNA (PubMed:24126761, PubMed:24207056, PubMed:24240614, PubMed:24267451, PubMed:25746449). Provides different translesion synthesis alternatives when DNA replication is stalled: able to synthesize DNA primers downstream of lesions, such as ultraviolet (UV) lesions, R-loops and G-quadruplexes, to allow DNA replication to continue (PubMed:24240614, PubMed:26626482, PubMed:28534480, PubMed:30478192). Can also realign primers ahead of 'unreadable lesions' such as abasic sites and 6-4 photoproduct (6-4 pyrimidine-pyrimidinone), thereby skipping the lesion (PubMed:25746449). Also able to incorporate nucleotides opposite DNA lesions such as 8oxoG, like a regular translesion synthesis DNA polymerase (PubMed:24207056, PubMed:25255211, PubMed:25746449). Also required for reinitiating stalled forks after UV damage during nuclear DNA replication (PubMed:24240614). Required for mitochondrial DNA (mtDNA) synthesis and replication, by reinitiating synthesis after UV damage or in the presence of chain-terminating nucleotides (PubMed:24207056). Prevents APOBEC family-mediated DNA mutagenesis by repriming downstream of abasic site to prohibit error-prone translesion synthesis (By similarity). Has non-overlapping function with POLH (PubMed:24240614). In addition to its role in DNA damage response, also required to maintain efficient nuclear and mitochondrial DNA replication in unperturbed cells (PubMed:30715459). {ECO:0000250|UniProtKB:Q6P1E7, ECO:0000269|PubMed:24126761, ECO:0000269|PubMed:24207056, ECO:0000269|PubMed:24240614, ECO:0000269|PubMed:24267451, ECO:0000269|PubMed:24682820, ECO:0000269|PubMed:25255211, ECO:0000269|PubMed:25262353, ECO:0000269|PubMed:25550423,

Target Details

	ECO:0000269|PubMed:25746449, ECO:0000269|PubMed:26626482, ECO:0000269|PubMed:27989484, ECO:0000269|PubMed:28534480, ECO:0000269|PubMed:29608762, ECO:0000269|PubMed:30478192, ECO:0000269|PubMed:30633872, ECO:0000269|PubMed:30715459, ECO:0000269|PubMed:30889508}., FUNCTION: Involved in adaptive response to cisplatin, a chemotherapeutic that causes reversal of replication forks, in cancer cells: reinitiates DNA synthesis past DNA lesions in BRCA1-deficient cancer cells treated with cisplatin via its de novo priming activity (PubMed:31676232). Repriming rescues fork degradation while leading to accumulation of internal ssDNA gaps behind the forks (PubMed:31676232). ATR regulates adaptive response to cisplatin (PubMed:31676232). {ECO:0000269|PubMed:31676232}.
Molecular Weight:	64.4 kDa
UniProt:	Q96LW4

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

Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months

