Datasheet for ABIN3092164

DNA2 Protein (AA 1-1060) (Strep Tag)

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Overview

Quantity:	1 mg
Target:	DNA2
Protein Characteristics:	AA 1-1060
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This DNA2 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Sequence:	MEQLNELELL MEKSFWEEAE LPAELFQKKV VASFPRTVLS TGMDNRYLVL AVNTVQNKEG NCEKRLVITA SQSLENKELC ILRNDWCSVP VEPGDIIHLE GDCTSDTWII DKDFGYLILY PDMLISGTSI ASSIRCMRRA VLSETFRSSD PATRQMLIGT VLHEVFQKAI NNSFAPEKLQ ELAFQTIQEI RHLKEMYRLN LSQDEIKQEV EDYLPSFCKW AGDFMHKNTS TDFPQMQLSL PSDNSKDNST CNIEVVKPMD IEESIWSPRF GLKGKIDVTV GVKIHRGYKT KYKIMPLELK TGKESNSIEH RSQVVLYTLL SQERRADPEA GLLLYLKTGQ MYPVPANHLD KRELLKLRNQ MAFSLFHRIS KSATRQKTQL ASLPQIIEEE KTCKYCSQIG NCALYSRAVE QQMDCSSVPI VMLPKIEEET QHLKQTHLEY FSLWCLMLTL ESQSKDNKKN HQNIWLMPAS EMEKSGSCIG NLIRMEHVKI VCDGQYLHNF QCKHGAIPVT NLMAGDRVIV SGEERSLFAL SRGYVKEINM TTVTCLLDRN LSVLPESTLF RLDQEEKNCD IDTPLGNLSK LMENTFVSKK LRDLIIDFRE PQFISYLSSV LPHDAKDTVA CILKGLNKPQ RQAMKKVLLS KDYTLIVGMP GTGKTTTICT LVRILYACGF SVLLTSYTHS AVDNILLKLA KFKIGFLRLG QIQKVHPAIQ QFTEQEICRS KSIKSLALLE

ELYNSQLIVA TTCMGINHPI FSRKIFDFCI VDEASQISQP ICLGPLFFSR RFVLVGDHQQ LPPLVLNREA RALGMSESLF KRLEQNKSAV VQLTVQYRMN SKIMSLSNKL TYEGKLECGS DKVANAVINL RHFKDVKLEL EFYADYSDNP WLMGVFEPNN PVCFLNTDKV PAPEQVEKGG VSNVTEAKLI VFLTSIFVKA GCSPSDIGII APYRQQLKII NDLLARSIGM VEVNTVDKYQ GRDKSIVLVS FVRSNKDGTV GELLKDWRRL NVAITRAKHK LILLGCVPSL NCYPPLEKLL NHLNSEKLII DLPSREHESL CHILGDFQRE

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.

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Product Details

- 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:	> 80 % as determined by SDS PAGE, Western Blot and analytical SEC (HPLC).

Target Details

Target:	DNA2
Alternative Name:	DNA2 (DNA2 Products)
Background:	DNA replication ATP-dependent helicase/nuclease DNA2 (hDNA2) (DNA replication ATP-dependent helicase-like homolog) [Includes: DNA replication nuclease DNA2 (EC 3.1.-.-), DNA replication ATP-dependent helicase DNA2 (EC 3.6.4.12)],FUNCTION: Key enzyme involved in DNA replication and DNA repair in nucleus and mitochondrion. Involved in Okazaki fragments processing by cleaving long flaps that escape FEN1: flaps that are longer than 27 nucleotides are coated by replication protein A complex (RPA), leading to recruit DNA2 which cleaves the flap until it is too short to bind RPA and becomes a substrate for FEN1. Also involved in 5'-end resection of DNA during double-strand break (DSB) repair: recruited by BLM and mediates the cleavage of 5'-ssDNA, while the 3'-ssDNA cleavage is prevented by the presence of RPA. Also involved in DNA replication checkpoint independently of Okazaki fragments processing. Possesses different enzymatic activities, such as single-stranded DNA (ssDNA)-dependent ATPase, 5'-3' helicase and endonuclease activities. While the ATPase and endonuclease activities are well-defined and play a key role in Okazaki fragments processing and DSB repair, the 5'-3' DNA helicase activity is subject to debate. According to various reports, the helicase activity is weak and its function remains largely unclear. Helicase activity may promote the motion of DNA2 on the flap, helping the nuclease function. {ECO:0000269|PubMed:16595799, ECO:0000269|PubMed:16595800, ECO:0000269|PubMed:18995831, ECO:0000269|PubMed:19487465, ECO:0000269|PubMed:21325134, ECO:0000269|PubMed:21572043, ECO:0000269|PubMed:22570407, ECO:0000269|PubMed:22570476}.
Molecular Weight:	120.4 kDa
UniProt:	P51530
Pathways:	Telomere Maintenance, DNA Damage Repair, DNA Replication, Synthesis of DNA

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. 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)