



Datasheet for ABIN3135884
DNA2 Protein (AA 1-1062) (His tag)



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1 Image

Overview

Quantity:	1 mg
Target:	DNA2
Protein Characteristics:	AA 1-1062
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This DNA2 protein is labelled with His tag.
Application:	ELISA, Western Blotting (WB), Crystallization (Crys), SDS-PAGE (SDS)

Product Details

Sequence: MEPLDELDLL LLEEDGGAEA VPRVELLRKK ADALFPETVL SRGVDNRYLV LAVETSQNER
 GAEEKRLHVT ASQDREHEVL CILRNGWSSV PVEPGDIVHL EGDCTSEPWI IDDDFGYFIL
 YPDMMSGTS VASSIRCLRR AVLSEFRGS DPATRQMLIG TILHEVFQKA ISESFAPERL
 QELALQTLRE VRHLKEMYRL NLSQDEILCE VEEYLPSFSK WAEDFMRKGP SSEFPQMQLS
 LPSDGSNRSS PCNIEVVKSL DIEESIWSR FGLKGGKIDVT VGVKIHRCCK MKYKVMPLLEL
 KTGKESNSIE HRSQVLYTL LSQERREDPE AGWLLYLKGT QMYPVPANHL DKRELLKLRN
 WLAASLLHRV SRAAPGEEAR LSALPQIIIE EKTCKYCSQI GNCALYSRAV EEQGDDASIP
 EAMLSKIQEE TRHLQLAHLK YFSLWCLMLT LESQSKDNRK THQSIWLTPA SELEESGNCV
 GNLVRTEPVS RVCDGQYLHN FQRKNGPMPA TNL MAGDR II LSGEERK LFA LSKGYVKKMN
 KAAVTCLLDR NLSTLPATTV FRLDREERHG DISTPLGNLS KLMESTDPSK RLRELIIDFR
 EPQFIAYLSS VLP HDAKDTV ANILKGLNKP QRQAMKRVLL SKDYTLIVGM PGTGKTTTIC
 ALVRILSACG FSVLLTSYTH SAVDNILLKL AKFKVGFRLR GQSHKVHPDI QKFTEEEICR

SRSIASLAHL EELYNSHPIV ATTCMGINHP IFSRKTFDFC IVDEASQISQ PVCLGPLFFS
RRFVLVGDHQ QLPPLVVNRE ARALGMSESL FKRLERNESA VVQLTVQYRM NRKIMSLSNK
LTYAGKLECG SDRVANAVLA LPNLKDARLS LQLYADYSDS PWLAGVLEPD NPVCFLNNDK
VPAPEQVENG GVSNTTEARL IVFLTSTFIK AGCSPSDIGV IAPYRQLRI ISDLLARSSV
GMVEVNTVDK YQGRDKSLIL VSFVRSNEDG TLGELLKDWR RLNVALTRAK HKLILLGSVS
SLKRFPPPLGT LFDHLNAEQL ILDLPSREHE SLSHILGDCQ RD

Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.

Characteristics:

- Made in Germany - from design to production - by highly experienced protein experts.
- Mouse Dna2 Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade.
- 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.

In the unlikely event that the protein cannot be expressed or purified we do not charge anything (other companies might charge you for any performed steps in the expression process for custom-made proteins, e.g. fees might apply for the expression plasmid, the first expression experiments or purification optimization).

When you order this made-to-order protein you will only pay upon receipt of the correctly folded protein. With no financial risk on your end you can rest assured that our experienced protein experts will do everything to make sure that you receive the protein you ordered.

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.

The concentration of the protein is calculated using its specific absorption coefficient. We use the Expasy's protparam tool to determine the absorption coefficient of each protein.

Purification:

Two step purification of proteins expressed in baculovirus infected SF9 insect cells:

1. In a first purification step, the protein is purified from the cleared cell lysate using three different His-tag capture materials: high yield, EDTA resistant, or DTT resistant. Eluate fractions are analyzed by SDS-PAGE.
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.

Product Details

Purity:	>95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
Sterility:	0.22 µm filtered
Endotoxin Level:	Protein is endotoxin free.
Grade:	Crystallography grade

Target Details

Target:	DNA2
Alternative Name:	Dna2 (DNA2 Products)
Background:	<p>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 (By similarity). {ECO:0000250}.</p>
Molecular Weight:	120.4 kDa Including tag.
UniProt:	Q6ZQJ5
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:	Protein has not been tested for activity yet. In cases in which it is highly likely that the recombinant protein with the default tag will be insoluble our protein lab may suggest a higher

Application Details

molecular weight tag (e.g. GST-tag) instead to increase solubility. We will discuss all possible options with you in detail to assure that you receive your protein of interest.

Restrictions: For Research Use only

Handling

Format: Liquid

Buffer: 100 mM NaCl, 20 mM Hepes, 10% glycerol. pH value is at the discretion of the manufacturer.

Handling Advice: Avoid repeated freeze-thaw cycles.

Storage: -80 °C

Storage Comment: Store at -80°C.

Expiry Date: Unlimited (if stored properly)

Images



Image 1. „Crystallography Grade“ protein due to multi-step, protein-specific purification process