Datasheet for ABIN3092138

POLD1 Protein (AA 1-1107) (Strep Tag)

1 Image

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Overview

Quantity:	1 mg
Target:	POLD1
Protein Characteristics:	AA 1-1107
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This POLD1 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

Product Details

Sequence:	MDGKRRPGPG PGVPPKRARG GLWDDDDAPR PSQFEEDLAL MEEMEAEHRL QEQEEEELQS VLEGVADGQV PPSAIDPRWL RPTPPALDPQ TEPLIFQQLE IDHYVGPAQP VPGGPPPSRG SVPVLRAFGV TDEGFSVCCH IHGFAPYFYT PAPPGFGPEH MGDLQRELNL AISRDSRGGR ELTGPAVLAV ELCSRESMFG YHGHGPSPFL RITVALPRLV APARRLLEQG IRVAGLGTPS FAPYEANVDF EIRFMVDTDI VGCNWLELPA GKYALRLKEK ATQCQLEADV LWSDVVSHPP EGPWQRIAPL RVLSFDIECA GRKGIFPEPE RDPVIQICSL GLRWGEPEPF LRLALTLRPC APILGAKVQS YEKEEDLLQA WSTFIRIMDP DVITGYNIQN FDLPYLISRA QTLKVQTFPF LGRVAGLCSN IRDSSFQSKQ TGRRDTKVVS MVGRVQMDML QVLLREYKLR SYTLNAVSFH FLGEQKEDVQ HSIITDLQNG NDQTRRRLAV YCLKDAYLPL RLLERLMVLV NAVEMARVTG VPLSYLLSRG QQVKVVSQLL RQAMHEGLLM PVVKSEGGED YTGATVIEPL KGYYDVPIAT LDFSSLYPSI MMAHNLCYTT LLRPGTAQKL GLTEDQFIRT PTGDEFVKTS VRKGLLPQIL ENLLSARKRA KAELAKETDP LRRQVLDGRQ LALKVSANSV YGFTGAQVGK LPCLEISQSV

TGFGRQMIEK TKQLVESKYT VENGYSTSAK VVYGDTDSVM CRFGVSSVAE AMALGREAAD WVSGHFPSPI RLEFEKVYFP YLLISKKRYA GLLFSSRPDA HDRMDCKGLE AVRRDNCPLV ANLVTASLRR LLIDRDPEGA VAHAQDVISD LLCNRIDISQ LVITKELTRA ASDYAGKQAH VELAERMRKR DPGSAPSLGD RVPYVIISAA KGVAAYMKSE DPLFVLEHSL PIDTQYYLEQ QLAKPLLRIF EPILGEGRAE AVLLRGDHTR CKTVLTGKVG GLLAFAKRRN CCIGCRTVLS HQGAVCEFCQ PRESELYQKE VSHLNALEER FSRLWTQCQR CQGSLHEDVI CTSRDCPIFY MRKKVRKDLE DQEQLLRRFG PPGPEAW

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 by multi-step, protein-specific process to ensure correct folding and modification.
- 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 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.

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:

Product Details

- 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.
- 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®): 1. In a first purification step, the protein is purified from the cleared cell lysate using StrepTag capture material. 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.
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)
Grade:	Crystallography grade

Target Details

Target:	POLD1
Alternative Name:	POLD1 (POLD1 Products)
Background:	DNA polymerase delta catalytic subunit (EC 2.7.7.7) (3'-5' exodeoxyribonuclease) (EC 3.1.11.-) (DNA polymerase subunit delta p125),FUNCTION: As the catalytic component of the trimeric (Pol-delta3 complex) and tetrameric DNA polymerase delta complexes (Pol-delta4 complex), plays a crucial role in high fidelity genome replication, including in lagging strand synthesis, and repair. Exhibits both DNA polymerase and 3'- to 5'-exonuclease activities (PubMed:16510448, PubMed:19074196, PubMed:20334433, PubMed:24035200, PubMed:24022480). Requires the presence of accessory proteins POLD2, POLD3 and POLD4 for full activity. Depending upon the absence (Pol-delta3) or the presence of POLD4 (Pol-delta4), displays differences in catalytic activity. Most notably, expresses higher proofreading activity in the context of Pol-delta3 compared with that of Pol-delta4 (PubMed:19074196, PubMed:20334433). Although both Pol-delta3 and Pol-delta4 process Okazaki fragments in vitro, Pol-delta3 may be better suited to fulfill this task, exhibiting near-absence of strand displacement activity compared to Pol-delta4 and stalling on encounter with the 5'-blocking oligonucleotides. Pol-delta3 idling process may avoid the formation of a gap, while maintaining a nick that can be readily ligated (PubMed:24035200). Along with DNA polymerase kappa, DNA polymerase delta carries out

Target Details

	approximately half of nucleotide excision repair (NER) synthesis following UV irradiation (PubMed:20227374). Under conditions of DNA replication stress, in the presence of POLD3 and POLD4, may catalyze the repair of broken replication forks through break-induced replication (BIR) (PubMed:24310611). Involved in the translesion synthesis (TLS) of templates carrying O6-methylguanine, 8oxoG or abasic sites (PubMed:19074196, PubMed:24191025). {ECO:0000269|PubMed:16510448, ECO:0000269|PubMed:19074196, ECO:0000269|PubMed:20227374, ECO:0000269|PubMed:20334433, ECO:0000269|PubMed:24022480, ECO:0000269|PubMed:24035200, ECO:0000269|PubMed:24191025, ECO:0000269|PubMed:24310611}.
Molecular Weight:	123.6 kDa
UniProt:	P28340
Pathways:	Telomere Maintenance, DNA Damage Repair, DNA Replication, Chromatin Binding, 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,

Handling

	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)

Images

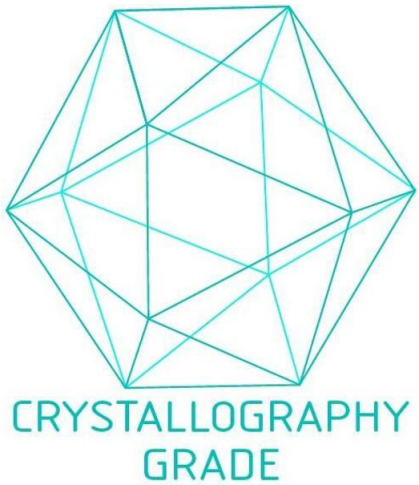

Image 1. „Crystallography Grade“ protein due to multi-step, protein-specific purification process