Datasheet for ABIN3094678

POLH Protein (AA 1-713) (Strep Tag)

1 Image

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Overview

Quantity:	1 mg
Target:	POLH
Protein Characteristics:	AA 1-713
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This POLH protein is labelled with Strep Tag.
Application:	Western Blotting (WB), ELISA, SDS-PAGE (SDS)

Product Details

Sequence:	MATGQDRVVA LVDMDCFFVQ VEQRQNPHLR NKPCAVVQYK SWKGGGIIAV SYEARAFGVT RSMWADDAKK LCPDLLLAQV RESRGKANLT KYREASVEVM EIMSRFAVIE RASIDEAYVD LTSAVQERLQ KLQGQPISAD LLPSTYIEGL PQGPTTAEET VQKEGMRKQG LFQWLDSLQI DNLTSPDLQL TVGAVIVEEM RAAIERETGF QCSAGISHNK VLAKLACGLN KPNRQTLVSH GSVPQLFSQM PIRKIRSLGG KLGASVIEIL GIEYMGELTQ FTESQLQSHF GEKNGSWLYA MCRGIEHDPV KPRQLPKTIG CSKNFPGKTA LATREQVQWW LLQLAQELEE RLTKDRNDND RVATQLVVSI RVQGDKRLSS LRRCCALTRY DAHKMSHDAF TVIKNCNTSG IQTEWSPPLT MLFLCATKFS ASAPSSSTDI TSFLSSDPSS LPKVPVTSSE AKTQGSGPAV TATKKATTSL ESFFQKAAER QKVKEASLSS LTAPTQAPMS NSPSKPSLPF QTSQSTGTEP FFKQKSLLLK QKQLNNSSVS SPQQNPWSNC KALPNSLPTE YPGCVPVCEG VSKLEESSKA TPAEMDLAHN SQSMHASSAS KSVLEVTQKA TPNPSLLAAE DQVPCEKCGS LVPVWDMPEH MDYHFALELQ KSFLQPHSSN PQVVSAVSHQ GKRNPKSPLA CTNKRPRPEG MQTLESFFKP LTH

	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: • 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®):

Product Details

	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:	POLH
Alternative Name:	POLH (POLH Products)
Background:	DNA polymerase eta (EC 2.7.7.7) (RAD30 homolog A) (Xeroderma pigmentosum variant type protein),FUNCTION: DNA polymerase specifically involved in the DNA repair by translesion synthesis (TLS) (PubMed:10385124, PubMed:11743006, PubMed:24449906, PubMed:24553286, PubMed:16357261). Due to low processivity on both damaged and normal DNA, cooperates with the heterotetrameric (REV3L, REV7, POLD2 and POLD3) POLZ complex for complete bypass of DNA lesions. Inserts one or 2 nucleotide(s) opposite the lesion, the primer is further extended by the tetrameric POLZ complex. In the case of 1,2-intrastrand d(GpG)-cisplatin cross-link, inserts dCTP opposite the 3' guanine (PubMed:24449906). Particularly important for the repair of UV-induced pyrimidine dimers (PubMed:10385124, PubMed:11743006). Although inserts the correct base, may cause base transitions and transversions depending upon the context. May play a role in hypermutation at immunoglobulin genes (PubMed:11376341, PubMed:14734526). Forms a Schiff base with 5'-deoxyribose phosphate at abasic sites, but does not have any lyase activity, preventing the release of the 5'-deoxyribose phosphate (5'-dRP) residue. This covalent trapping of the enzyme by the 5'-dRP residue inhibits its DNA synthetic activity during base excision repair, thereby avoiding high incidence of mutagenesis (PubMed:14630940). Targets POLI to replication foci (PubMed:12606586). {ECO:0000269|PubMed:10385124, ECO:0000269|PubMed:11376341, ECO:0000269|PubMed:11743006, ECO:0000269|PubMed:12606586, ECO:0000269|PubMed:14630940, ECO:0000269|PubMed:14734526, ECO:0000269|PubMed:16357261, ECO:0000269|PubMed:24449906, ECO:0000269|PubMed:24553286}.
Molecular Weight:	78.4 kDa

Target Details

UniProt:	Q9Y253
Pathways:	DNA Damage Repair

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)

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