

Datasheet for ABIN3085698

PARP2 Protein (AA 1-583) (Strep Tag)



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1 Image

Overview

Quantity:	1 mg
Target:	PARP2
Protein Characteristics:	AA 1-583
Origin:	Human
Source:	Tobacco (<i>Nicotiana tabacum</i>)
Protein Type:	Recombinant
Purification tag / Conjugate:	This PARP2 protein is labelled with Strep Tag.
Application:	SDS-PAGE (SDS), ELISA, Western Blotting (WB)

Product Details

Sequence: MAARRRRSTG GGRARALNES KRVNNGNTAP EDSSPAKKTR RCQRQESKKM PVAGGKANKD
 RTEDKQDGMP GRSWASKRVS ESVKALLLK G KAPVDPECTA KVGKAHVYCE GNDVYDVMLN
 QTNLQFNNNK YYLIQLLEDD AQRNFSVWMR WGRVKGKMGQH SLVACSGNLN KAKEIFQKKF
 LDKTKNNWED REKFEKVP GK YDMLQMDYAT NTQDEEETKK EESLKSPLKP ESQDLDRVQE
 LIKLICNVQA MEEMMMEMKY NTKKAPLGKL TVAQIKAGYQ SLKKIEDCIR AGQHGRALME
 ACNEFYTRIP HDFGLRTPPL IRTQKELSEK IQLLEALGDI EIAIKLVKTE LQSPEHPLDQ
 HYRNLHCALR PLDHESYEFK VISQYLQSTH APTHSDYTMT LLDLFEVEKD GEKEAFREDL
 HNRMLLWHGS RMSNWVGILS HGLRIAPPEA PITGYMFGKG IYFADMSSKS ANYCFASRLK
 NTGLLLLSEV ALGQCNELLE ANPKAEGLLQ GK HSTKGLGK MAPSSAHFVT LNGSTVPLGP
 ASDTGILNPD GYTLNYNEYI VYNPNQVRMR YLLKVQFNFL QLW

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®):

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.

Product Details

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: PARP2

Alternative Name: PARP2 ([PARP2 Products](#))

Background: Poly [ADP-ribose] polymerase 2 (PARP-2) (hPARP-2) (EC 2.4.2.30) (ADP-ribosyltransferase diphtheria toxin-like 2) (ARTD2) (DNA ADP-ribosyltransferase PARP2) (EC 2.4.2.-) (NAD(+)-ADP-ribosyltransferase 2) (ADPRT-2) (Poly[ADP-ribose] synthase 2) (pADPRT-2) (Protein poly-ADP-ribosyltransferase PARP2) (EC 2.4.2.-),FUNCTION: Poly-ADP-ribosyltransferase that mediates poly-ADP-ribosylation of proteins and plays a key role in DNA repair (PubMed:10364231, PubMed:25043379, PubMed:27471034, PubMed:30104678, PubMed:32028527, PubMed:32939087, PubMed:34486521, PubMed:34874266, PubMed:34108479). Mediates glutamate, aspartate or serine ADP-ribosylation of proteins: the ADP-D-ribosyl group of NAD(+) is transferred to the acceptor carboxyl group of target residues and further ADP-ribosyl groups are transferred to the 2'-position of the terminal adenosine moiety, building up a polymer with an average chain length of 20-30 units (PubMed:25043379, PubMed:30104678, PubMed:30321391). Serine ADP-ribosylation of proteins constitutes the primary form of ADP-ribosylation of proteins in response to DNA damage (PubMed:32939087). Mediates glutamate and aspartate ADP-ribosylation of target proteins in absence of HPF1 (PubMed:25043379). Following interaction with HPF1, catalyzes serine ADP-ribosylation of target proteins, HPF1 conferring serine specificity by completing the PARP2 active site (PubMed:28190768, PubMed:32028527, PubMed:34486521, PubMed:34874266, PubMed:34108479). PARP2 initiates the repair of double-strand DNA breaks: recognizes and binds DNA breaks within chromatin and recruits HPF1, licensing serine ADP-ribosylation of target proteins, such as histones, thereby promoting decompaction of chromatin and the recruitment of repair factors leading to the reparation of DNA strand breaks (PubMed:10364231, PubMed:32939087, PubMed:34108479). HPF1 initiates serine ADP-ribosylation but restricts the polymerase activity of PARP2 in order to limit the length of poly-ADP-ribose chains (PubMed:34732825, PubMed:34795260). Specifically mediates formation of branched poly-ADP-ribosylation

Target Details

(PubMed:30104678). Branched poly-ADP-ribose chains are specifically recognized by some factors, such as APLF (PubMed:30104678). In addition to proteins, also able to ADP-ribosylate DNA: preferentially acts on 5'-terminal phosphates at DNA strand breaks termini in nicked duplex (PubMed:27471034, PubMed:29361132). {ECO:0000269|PubMed:10364231, ECO:0000269|PubMed:25043379, ECO:0000269|PubMed:27471034, ECO:0000269|PubMed:28190768, ECO:0000269|PubMed:29361132, ECO:0000269|PubMed:30104678, ECO:0000269|PubMed:30321391, ECO:0000269|PubMed:32028527, ECO:0000269|PubMed:32939087, ECO:0000269|PubMed:34108479, ECO:0000269|PubMed:34486521, ECO:0000269|PubMed:34732825, ECO:0000269|PubMed:34795260, ECO:0000269|PubMed:34874266}.

Molecular Weight: 66.2 kDa

UniProt: [Q9UGN5](#)

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.

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Restrictions: For Research Use only

Handling

Format: Liquid

Handling

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)

Images



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