

Datasheet for ABIN3133775

## POLA1 Protein (AA 1-1465) (His tag)



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### 1 Image

#### Overview

|                               |  |
|-------------------------------|--|
| Quantity:                     | 1 mg   |
| Target:                       | POLA1  |
| Protein Characteristics:      | AA 1-1465  |
| Origin:                       | Mouse  |
| Source:                       | Insect Cells   |
| Protein Type:                 | Recombinant  |
| Purification tag / Conjugate: | This POLA1 protein is labelled with His tag.                         |
| Application:                  | Western Blotting (WB), SDS-PAGE (SDS), ELISA, Crystallization (Crys) |

#### Product Details

|           |  |
|-----------|--|
| Sequence: | <p>MAPMHEEDCK LEASAVSDSG SFAASRARRE KSKKGRQEA LERLKKAKAG EKYKYEVEDL</p> <p>TSVYEEVDEE QYSKLVQARQ DDDWIVDDDG IGYVEDGREI FDDDLEDDAL DTCGKGSDGK</p> <p>AHRKDRKDVK KPSVTKPNNI KAMFIASAGK KTTDKAVDLS KDLLGDILQ DLNTETAQIT</p> <p>PPPVLIPKKK RSTGALLNPF SVHTPKAIPS GKPASPVLRN EPLLTPIPLK RLAGELAQ</p> <p>PECPEDQEL GVMEFEDGDF DESMDTEKVD EKPVTAKTWD QETEPVERVE HEADPERGTT</p> <p>SYLENFLPDV SCWDIDQDDE SIPQEVQVDS SNLPLVKGAD DEQVFQFYWL DAYEDPYNQP</p> <p>GVVFLFGKVW IESVKTHVSC CVMVKNIERT LYFLPREMKF DLNTGKETAI PVTMKDVYEE</p> <p>FDSKISAKYK IMKFKSKIVE KNYAFEIPDV PEKSEYLEVR YSAEVPQLPQ NLKGETFSHV</p> <p>FGTNTSSLEL FLMNRKIKGP CWLEVKNPQL LNQPISWCKF EVMALKPDLV NVIKDVSPPP</p> <p>LVVMSFSMKT MQNVQNHQHE IAMAALVHH SFALDKAPPE PPFQTHFCVV SKPKDCIFPC</p> <p>DFKEVISKKN MKVEIAATER TLIGFFLAKV HKIDPDILVG HNICSFELEV LLQRINECKV</p> <p>PYWSKIGRLR RSNMPKLGSR SGFGERNATC GRMICDVEIS AKELIHCKSY HSELVQQIL</p> |
|-----------|--|

KTERIVIPTE NIRNMYSESS YLLYLLEHIW KDARFILQIM CELNVLPLAL QITNIAGNIM  
SRTLMMGRSE RNEFLLLHAF YENNYIVPDK QIFRKPQKL GDEDEEIDGD TNKYKKGRKK  
ATYAGGLVLD PKVGFYDKFI LLLDFNSLYP SIQEFNICF TTVQRTSEV QKATEDEEQE  
QIPELPDPNL EMGILPREIR KLVERRKQVK QLMKQQDLNP DLVLQYDIRQ KALKLTANSM  
YGCLGFSYSR FYAKPLAALV TYKGREILMH TKDMVQKMNL EVIYGDTSI MINTNSTNLE  
EVFKLGKVK SEVNKLYKLL EIDIDAVFKS LLLLKKKKYA ALVVEPTSDG NYITKQELKG  
LDIVRRDWCD LAKDTGNFVI GQILSDQSRD TIVENIQKRL IEIGENVLNG SVPVSQFEIN  
KALT KDPQDY PDRKSLPHVH VALWINSQGG RKVKAGDTSV YVICQDGSNL TATQRAYAPE  
QLQKLDNLAI DTQYYLAQQI HPVVARICEP IDGIDAVLIA LWLGLDSTQF RVHQYHKDEE  
NDALLGGPAQ LTDEEKYKDC EKFKCLCPSC GTENIYDNVF EGSGLDMEPS LYRCSNVDCK  
VSPLTFMVQL SNKLIMDIRR CIKKYYDGWL ICEEPTCCSR LRRLPLHFSR NGPLCPVCMK  
AVLRPEYSDK SLYTQLCFYR YIFDADCALE KLTEHEKDKL KKQFFPLRVL QDYRKVKNIA  
EQFLSWSGYS EVNLSKLFAN YAGKS

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

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### Characteristics:

- Made in Germany - from design to production - by highly experienced protein experts.
- Mouse Pola1 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

## Product Details

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:<br><ol style="list-style-type: none"><li>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.</li><li>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.</li></ol> |
| 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:           | POLA1   |
| Alternative Name: | Pola1 ( <a href="#">POLA1 Products</a> )  |
| Background:       | Plays an essential role in the initiation of DNA replication. During the S phase of the cell cycle, the DNA polymerase alpha complex (composed of a catalytic subunit POLA1/p180, a regulatory subunit POLA2/p70 and two primase subunits PRIM1/p49 and PRIM2/p58) is recruited to DNA at the replicative forks via direct interactions with MCM10 and WDHD1. The primase subunit of the polymerase alpha complex initiates DNA synthesis by oligomerising short RNA primers on both leading and lagging strands. These primers are initially extended by the polymerase alpha catalytic subunit and subsequently transferred to polymerase delta and polymerase epsilon for processive synthesis on the lagging and leading strand, respectively. The reason this transfer occurs is because the polymerase alpha has limited processivity and lacks intrinsic 3' exonuclease activity for proofreading error, and therefore is not well suited for replicating long complexes (By similarity). {ECO:0000250}. |
| Molecular Weight: | 168.3 kDa Including tag.  |
| UniProt:          | <a href="#">P33609</a>  |
| Pathways:         | <a href="#">SARS-CoV-2 Protein Interactome</a>  |

## 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 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