

Datasheet for ABIN7555063
CCDC111 Protein (AA 1-560) (His tag)



[Go to Product page](#)

Overview

Quantity:	1 mg
Target:	CCDC111
Protein Characteristics:	AA 1-560
Origin:	Human
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This CCDC111 protein is labelled with His tag.

Product Details

Purpose:	Custom-made recombinant PRIMPOL Protein expressed in mammalian cells.
Sequence:	<p>MNRKWEAKLK QIEERASHYE RKPLSSVYRP RLSKPEEPPS IWRLFHRQAQ AFNFVKSCKE DVHVFALECK VGDGQRIYLV TTYAEFWFY KSRKNLLHCY EVIPENAVCK LYFDLEFNKP ANPGADGKKM VALLIEYVCK ALQELYGVNC SAEDVLNLDS STDEKFSRHL IFQLHDVAFK DNIHVGNFRLR KILQPALDLL GSEDDDSAPE TTGHGFPHFS EAPARQGFSF NKMFTKATE ESWTSNSKKL ERLGSAEQSS PDL SFLVVKV NMGEKHLFVD LGVYTRNRNF RLYKSSKIGK RVALEVTEEN KFFPIQSKDV SDEYQYFLSS LVS NVRFSDT LRILTCEPSQ NKQKGVGYFN SIGTSVETIE GFQCSPYPEV DHFVLSLVNK DGIKGGIRRW NYFFPEELLV YDICKYRWCE NIGRAHKSNN IMILVDLKNE VWYQKCHDPV CKAENFKSDC FPLPAEVCLL FLFKEEEEFT TDEADETR SN ETQNP HKPSP SRLSTGASAD AVWDNGIDDA YFLEATEDAE LAEAAENSL SYNSEVDEIP DELIIEVLQE Sequence without tag. The proposed Purification-Tag is based on experiences 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.</p>

Product Details

Specificity: If you are looking for a specific domain and are interested in a partial protein or a different isoform, please contact us regarding an individual offer.

Characteristics: **Key Benefits:**

- Made to order protein - from design to production - by highly experienced protein experts.
- Protein expressed in mammalian cells and purified in one-step affinity chromatography
- The optimized expression system ensures reliability for intracellular, secreted and transmembrane proteins.
- 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 try to ensure that you receive soluble protein.

If you are not interested in a full length protein, please contact us for individual protein fragments.

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.

Purity: > 90 % as determined by Bis-Tris PAGE, anti-tag ELISA, Western Blot and analytical SEC (HPLC)

Grade: custom-made

Target Details

Target: CCDC111

Alternative Name: PRIMPOL ([CCDC111 Products](#))

Background: DNA-directed primase/polymerase protein (hPrimpol1) (EC 2.7.7.-) (Coiled-coil domain-containing protein 111),FUNCTION: DNA primase and DNA polymerase required to tolerate replication-stalling lesions by bypassing them (PubMed:24126761, PubMed:24207056, PubMed:24240614, PubMed:24267451, PubMed:25255211, PubMed:24682820, PubMed:25262353, PubMed:25746449, PubMed:25550423, PubMed:27989484, PubMed:29608762, PubMed:30889508, PubMed:28534480). Required to facilitate mitochondrial and nuclear replication fork progression by initiating de novo DNA synthesis using dNTPs and acting as an error-prone DNA polymerase able to bypass certain DNA lesions (PubMed:24126761, PubMed:24207056, PubMed:24240614, PubMed:24267451, PubMed:25255211, PubMed:24682820, PubMed:25262353, PubMed:25746449, PubMed:25550423, PubMed:27989484, PubMed:29608762, PubMed:30889508,

Target Details

PubMed:30633872, PubMed:28534480). Shows a high capacity to tolerate DNA damage lesions such as 8oxoG and abasic sites in DNA (PubMed:24126761, PubMed:24207056, PubMed:24240614, PubMed:24267451, PubMed:25746449). Provides different translesion synthesis alternatives when DNA replication is stalled: able to synthesize DNA primers downstream of lesions, such as ultraviolet (UV) lesions, R-loops and G-quadruplexes, to allow DNA replication to continue (PubMed:24240614, PubMed:26626482, PubMed:28534480, PubMed:30478192). Can also realign primers ahead of 'unreadable lesions' such as abasic sites and 6-4 photoproduct (6-4 pyrimidine-pyrimidinone), thereby skipping the lesion (PubMed:25746449). Also able to incorporate nucleotides opposite DNA lesions such as 8oxoG, like a regular translesion synthesis DNA polymerase (PubMed:24207056, PubMed:25255211, PubMed:25746449). Also required for reinitiating stalled forks after UV damage during nuclear DNA replication (PubMed:24240614). Required for mitochondrial DNA (mtDNA) synthesis and replication, by reinitiating synthesis after UV damage or in the presence of chain-terminating nucleotides (PubMed:24207056). Prevents APOBEC family-mediated DNA mutagenesis by repriming downstream of abasic site to prohibit error-prone translesion synthesis (By similarity). Has non-overlapping function with POLH (PubMed:24240614). In addition to its role in DNA damage response, also required to maintain efficient nuclear and mitochondrial DNA replication in unperturbed cells (PubMed:30715459). {ECO:0000250|UniProtKB:Q6P1E7, ECO:0000269|PubMed:24126761, ECO:0000269|PubMed:24207056, ECO:0000269|PubMed:24240614, ECO:0000269|PubMed:24267451, ECO:0000269|PubMed:24682820, ECO:0000269|PubMed:25255211, ECO:0000269|PubMed:25262353, ECO:0000269|PubMed:25550423, ECO:0000269|PubMed:25746449, ECO:0000269|PubMed:26626482, ECO:0000269|PubMed:27989484, ECO:0000269|PubMed:28534480, ECO:0000269|PubMed:29608762, ECO:0000269|PubMed:30478192, ECO:0000269|PubMed:30633872, ECO:0000269|PubMed:30715459, ECO:0000269|PubMed:30889508}, FUNCTION: Involved in adaptive response to cisplatin, a chemotherapeutic that causes reversal of replication forks, in cancer cells: reinitiates DNA synthesis past DNA lesions in BRCA1-deficient cancer cells treated with cisplatin via its de novo priming activity (PubMed:31676232). Repriming rescues fork degradation while leading to accumulation of internal ssDNA gaps behind the forks (PubMed:31676232). ATR regulates adaptive response to cisplatin (PubMed:31676232). {ECO:0000269|PubMed:31676232}.

Molecular Weight: 64.4 kDa

UniProt: [Q96LW4](#)

Application Details

Application Notes: We expect the protein to work for functional studies. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.

Restrictions: For Research Use only

Handling

Format: Liquid

Buffer: The buffer composition 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: 12 months
