

POLD3 antibody - C-terminal region
Rabbit Polyclonal Antibody
Catalog # AI14772**Specification**

POLD3 antibody - C-terminal region - Product Information

Application	WB
Primary Accession	Q15054
Other Accession	NM_006591 , NP_006582
Reactivity	Human, Mouse, Rat, Rabbit, Pig, Horse, Bovine, Guinea Pig, Dog
Predicted	Human, Mouse, Rat, Rabbit, Chicken, Horse, Bovine, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	51kDa kDa

POLD3 antibody - C-terminal region - Additional Information**Gene ID** 10714**Alias Symbol** KIAA0039, MGC119642, MGC119643, P66, P68**Other Names**

DNA polymerase delta subunit 3, DNA polymerase delta subunit p66, POLD3, KIAA0039

Format

Liquid. Purified antibody supplied in 1x PBS buffer with 0.09% (w/v) sodium azide and 2% sucrose.

Reconstitution & Storage

Add 50 ul of distilled water. Final anti-POLD3 antibody concentration is 1 mg/ml in PBS buffer with 2% sucrose. For longer periods of storage, store at 20°C. Avoid repeat freeze-thaw cycles.

Precautions

POLD3 antibody - C-terminal region is for research use only and not for use in diagnostic or therapeutic procedures.

POLD3 antibody - C-terminal region - Protein Information**Name** POLD3**Synonyms** KIAA0039**Function**Accessory component of both the DNA polymerase delta complex and the DNA polymerase zeta complex (PubMed: <http://www.uniprot.org/citations/22801543> target="_blank">22801543, PubMed: <http://www.uniprot.org/citations/17317665> target="_blank">17317665, PubMed: <http://www.uniprot.org/citations/24449906> target="_blank">24449906)

target="_blank">24449906). As a component of the trimeric and tetrameric DNA polymerase delta complexes (Pol-delta3 and Pol-delta4, respectively), plays a role in high fidelity genome replication, including in lagging strand synthesis, and repair. Required for optimal Pol-delta activity. Stabilizes the Pol-delta complex and plays a major role in Pol-delta stimulation by PCNA (PubMed:10219083, PubMed:10852724, PubMed:11595739, PubMed:16510448, PubMed:24035200). Pol-delta3 and Pol-delta4 are characterized by the absence or the presence of POLD4. They exhibit differences in catalytic activity. Most notably, Pol-delta3 shows higher proofreading activity than Pol-delta4 (PubMed:19074196, PubMed:20334433). Although both Pol-delta3 and Pol-delta4 process Okazaki fragments in vitro, Pol-delta3 may also 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 approximately half of nucleotide excision repair (NER) synthesis following UV irradiation. In this context, POLD3, along with PCNA and RFC1-replication factor C complex, is required to recruit POLD1, the catalytic subunit of the polymerase delta complex, to DNA damage sites (PubMed:20227374). Under conditions of DNA replication stress, required for the repair of broken replication forks through break-induced replication (BIR) (PubMed:24310611). Involved in the translesion synthesis (TLS) of templates carrying O6-methylguanine or abasic sites performed by Pol- delta4, independently of DNA polymerase zeta (REV3L) or eta (POLH). Facilitates abasic site bypass by DNA polymerase delta by promoting extension from the nucleotide inserted opposite the lesion (PubMed:19074196, PubMed:25628356, PubMed:27185888). Also involved in TLS, as a component of the tetrameric DNA polymerase zeta complex. Along with POLD2, dramatically increases the efficiency and processivity of DNA synthesis of the DNA polymerase zeta complex compared to the minimal zeta complex, consisting of only REV3L and REV7 (PubMed:24449906).

Cellular Location

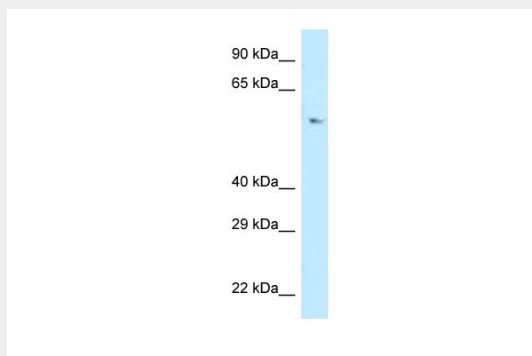
Cytoplasm {ECO:0000250|UniProtKB:Q9EQ28}. Nucleus. Note=Partially colocalizes with PCNA and POLD1 at S phase replication sites (PubMed:11595739). Recruited to DNA damage sites within 2 hours following UV irradiation (PubMed:20227374, PubMed:22801543).

POLD3 antibody - C-terminal region - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

POLD3 antibody - C-terminal region - Images



WB Suggested Anti-POLD3 Antibody Titration: 1.0 µg/ml

Positive Control: Jurkat Whole Cell
POLD3 is supported by BioGPS gene expression data to be expressed in Jurkat

POLD3 antibody - C-terminal region - References

Nomura N., et al. DNA Res. 1:27-35(1994).

Ota T., et al. Nat. Genet. 36:40-45(2004).

Taylor T.D., et al. Nature 440:497-500(2006).

Mural R.J., et al. Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.

Bienvenut W.V., et al. Submitted (MAR-2009) to UniProtKB.