

Anti-DNA Polymerase delta 1 Antibody
Catalog # AP53695**Specification**

Anti-DNA Polymerase delta 1 Antibody - Product Information

Application	WB
Primary Accession	P28340
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	123631

Anti-DNA Polymerase delta 1 Antibody - Additional Information**Gene ID** 5424**Other Names**

POLD; DNA polymerase delta catalytic subunit; DNA polymerase subunit delta p125

Target/Specificity

Recognizes endogenous levels of DNA Polymerase delta 1 protein.

Dilution

WB~~1/500 - 1/1000

Format

Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.09% (W/V) sodium azide.

Storage

Store at -20 °C.Stable for 12 months from date of receipt

Anti-DNA Polymerase delta 1 Antibody - Protein Information**Name** POLD1 ([HGNC:9175](#))**Synonyms** POLD**Function**

As the catalytic component of the trimeric (Pol-delta3 complex) and tetrameric DNA polymerase delta complexes (Pol-delta4 complex), plays a crucial role in high fidelity genome replication, including in lagging strand synthesis, and repair (PubMed:16510448, PubMed:19074196, PubMed:20334433, PubMed:24022480, PubMed:24035200, PubMed:31449058). Exhibits both

DNA polymerase and 3'- to 5'- exonuclease activities (PubMed:16510448, PubMed:19074196, PubMed:20334433, PubMed:24022480, PubMed:24035200). Requires the presence of accessory proteins POLD2, POLD3 and POLD4 for full activity. Depending upon the absence (Pol-delta3) or the presence of POLD4 (Pol-delta4), displays differences in catalytic activity. Most notably, expresses higher proofreading activity in the context of Pol- delta3 compared with that of Pol-delta4 (PubMed:19074196, PubMed:20334433). Although both Pol-delta3 and Pol-delta4 process Okazaki fragments in vitro, Pol-delta3 may 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 (PubMed:20227374). Under conditions of DNA replication stress, in the presence of POLD3 and POLD4, may catalyze the repair of broken replication forks through break-induced replication (BIR) (PubMed:24310611). Involved in the translesion synthesis (TLS) of templates carrying O6-methylguanine, 8oxoG or abasic sites (PubMed:19074196, PubMed:24191025).

Cellular Location

Nucleus Note=Colocalizes with PCNA and POLD3 at S phase replication sites (PubMed:11595739). After UV irradiation, recruited to DNA damage sites within 2 hours, independently on the cell cycle phase, nor on PCNA ubiquitination. This recruitment requires POLD3, PCNA and RFC1- replication factor C complex (PubMed:20227374, PubMed:22801543)

Tissue Location

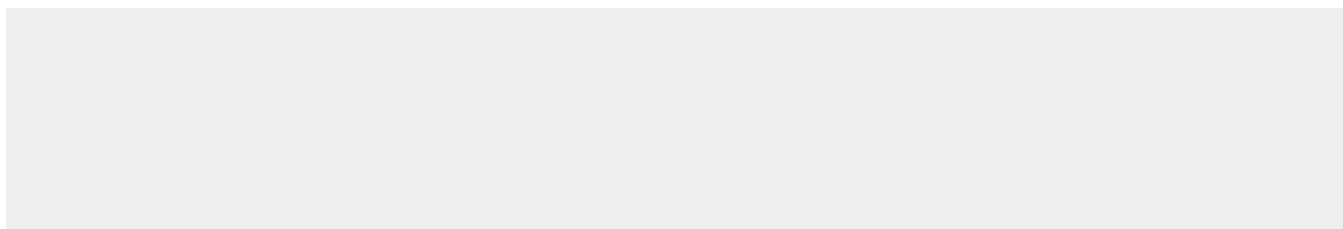
Widely expressed, with high levels of expression in heart and lung.

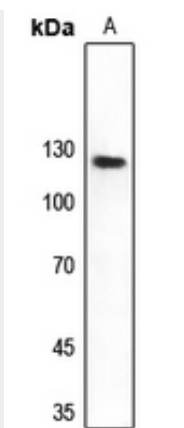
Anti-DNA Polymerase delta 1 Antibody - Protocols

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](#)

Anti-DNA Polymerase delta 1 Antibody - Images





Western blot analysis of DNA Polymerase delta 1 expression in Hela (A) whole cell lysates.

Anti-DNA Polymerase delta 1 Antibody - Background

Rabbit polyclonal antibody to DNA Polymerase delta 1