

POLD1 Rabbit mAb
Catalog # AP74880**Specification**

POLD1 Rabbit mAb - Product Information

Application	WB, IHC-P, FC, ICC
Primary Accession	P28340
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Monoclonal Antibody
Calculated MW	123631

POLD1 Rabbit mAb - Additional Information**Gene ID** 5424**Other Names**
POLD1**Dilution**
WB~~1/500-1/1000
IHC-P~~N/A
FC~~1:10~50
ICC~~N/A**Format**
Liquid**POLD1 Rabbit mAb - 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, PubMed:31449058).

[24022480](http://www.uniprot.org/citations/24022480), PubMed: [24035200](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/19074196), PubMed: [20334433](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/24035200)). Along with DNA polymerase kappa, DNA polymerase delta carries out approximately half of nucleotide excision repair (NER) synthesis following UV irradiation (PubMed: [20227374](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/24310611)). Involved in the translesion synthesis (TLS) of templates carrying O6-methylguanine, 8oxoG or abasic sites (PubMed: [19074196](http://www.uniprot.org/citations/19074196), PubMed: [24191025](http://www.uniprot.org/citations/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.

POLD1 Rabbit mAb - 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](#)

POLD1 Rabbit mAb - Images



