

Anti-POLD1 Rabbit Monoclonal Antibody
Catalog # ABO15538**Specification****Anti-POLD1 Rabbit Monoclonal Antibody - Product Information**

Application	WB, IHC, IF, ICC, FC
Primary Accession	P28340
Host	Rabbit
Isotype	IgG
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Liquid

Description

Anti-POLD1 Rabbit Monoclonal Antibody . Tested in WB, IHC, ICC/IF, Flow Cytometry applications. This antibody reacts with Human, Mouse, Rat.

Anti-POLD1 Rabbit Monoclonal Antibody - Additional Information

Gene ID 5424

Other Names

DNA polymerase delta catalytic subunit, 2.7.7.7, 3'-5' exodeoxyribonuclease, 3.1.11.-, DNA polymerase subunit delta p125, POLD1 (http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=9175 target="_blank">HGNC:9175), POLD

Calculated MW

124 kDa KDa

Application Details

WB 1:500-1:2000
IHC 1:50-1:200
ICC/IF 1:50-1:200
FC 1:100

Contents

Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.

Immunogen

A synthesized peptide derived from human POLD1

Purification

Affinity-chromatography

Storage

Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

Anti-POLD1 Rabbit Monoclonal 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. Exhibits both DNA polymerase and 3'- to 5'-exonuclease activities (PubMed:[16510448](http://www.uniprot.org/citations/16510448), PubMed:[19074196](http://www.uniprot.org/citations/19074196), PubMed:[20334433](http://www.uniprot.org/citations/20334433), PubMed:[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=Localizes 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

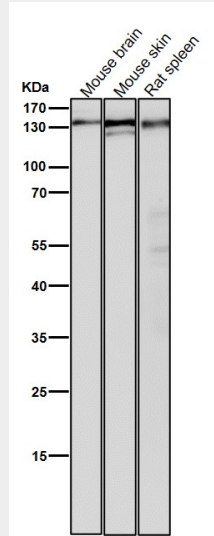
Widely expressed, with high levels of expression in heart and lung.

Anti-POLD1 Rabbit Monoclonal Antibody - Protocols

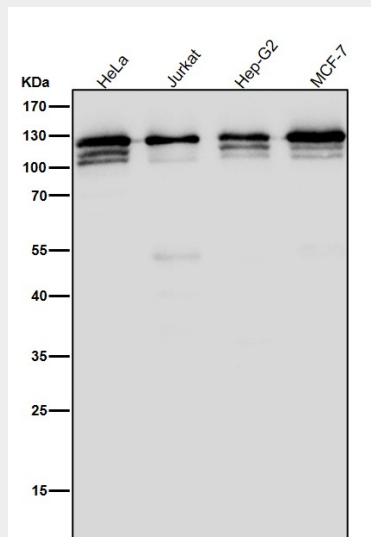
Provided below are standard protocols that you may find useful for product applications.

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

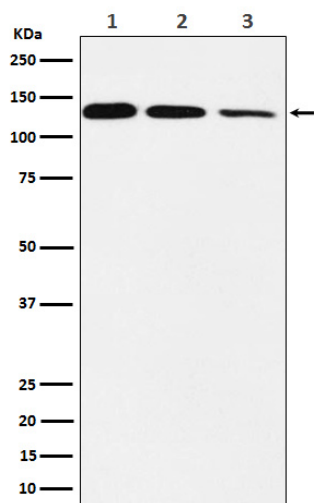
Anti-POLD1 Rabbit Monoclonal Antibody - Images



All lanes use the Antibody at 1:5K dilution for 1 hour at room temperature.



All lanes use the Antibody at 1:5K dilution for 1 hour at room temperature.



Western blot analysis of DNA Polymerase delta, catalytic subunit expression in (1) Jurkat cell lysate; (2) Raw264.7 cell lysate; (3) C6 cell lysate.