

**Anti-POLB (DNA polymerase beta) (RABBIT) Antibody**  
**POLB Antibody**  
**Catalog # ASR5510****Specification****Anti-POLB (DNA polymerase beta) (RABBIT) Antibody - Product Information**

Host	Rabbit
Conjugate	Unconjugated
Target Species	Human
Reactivity	Human
Clonality	Polyclonal
Application	WB, E, I, LCI
Application Note	This affinity purified POLB antibody has been tested by ELISA and western blotting. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 38.1 kDa in size corresponding to POLB by western blotting in the appropriate cell lysate or extract.
Physical State	Liquid (sterile filtered)
Buffer	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Immunogen	This affinity-purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to a region near the C-terminus of the POLB protein.
Preservative	0.01% (w/v) Sodium Azide

**Anti-POLB (DNA polymerase beta) (RABBIT) Antibody - Additional Information****Gene ID** 5423**Other Names**  
5423**Purity**

This product was affinity purified from monospecific antiserum by immunoaffinity chromatography. This antibody reacts with overexpressed and endogenous POLB protein. A BLAST analysis was used to suggest reactivity with POLB from human, bovine, and *Xenopus laevis* based on a 100% homology with the immunizing sequence. Cross-reactivity with POLB from other sources has not been determined.

**Storage Condition**

Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

**Precautions Note**

This product is for research use only and is not intended for therapeutic or diagnostic applications.

**Anti-POLB (DNA polymerase beta) (RABBIT) Antibody - Protein Information****Name** POLB**Function**

Repair polymerase that plays a key role in base-excision repair (PubMed:<a href="http://www.uniprot.org/citations/10556592" target="\_blank">10556592</a>, PubMed:<a href="http://www.uniprot.org/citations/9207062" target="\_blank">9207062</a>, PubMed:<a href="http://www.uniprot.org/citations/9572863" target="\_blank">9572863</a>). During this process, the damaged base is excised by specific DNA glycosylases, the DNA backbone is nicked at the abasic site by an apurinic/apyrimidic (AP) endonuclease, and POLB removes 5'-deoxyribose-phosphate from the preincised AP site acting as a 5'-deoxyribose-phosphate lyase (5'-dRP lyase); through its DNA polymerase activity, it adds one nucleotide to the 3' end of the arising single-nucleotide gap (PubMed:<a href="http://www.uniprot.org/citations/10556592" target="\_blank">10556592</a>, PubMed:<a href="http://www.uniprot.org/citations/17526740" target="\_blank">17526740</a>, PubMed:<a href="http://www.uniprot.org/citations/9556598" target="\_blank">9556598</a>, PubMed:<a href="http://www.uniprot.org/citations/9572863" target="\_blank">9572863</a>, PubMed:<a href="http://www.uniprot.org/citations/9614142" target="\_blank">9614142</a>). Conducts 'gap-filling' DNA synthesis in a stepwise distributive fashion rather than in a processive fashion as for other DNA polymerases. It is also able to cleave sugar-phosphate bonds 3' to an intact AP site, acting as an AP lyase (PubMed:<a href="http://www.uniprot.org/citations/9614142" target="\_blank">9614142</a>).

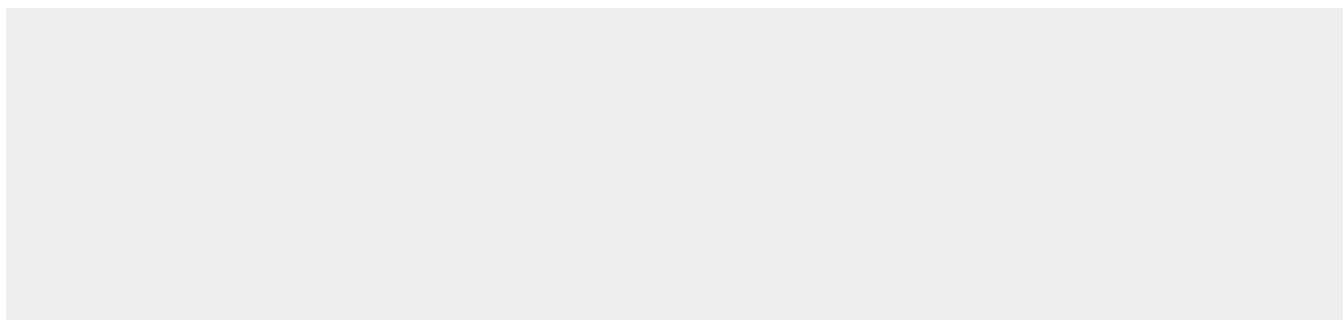
**Cellular Location**

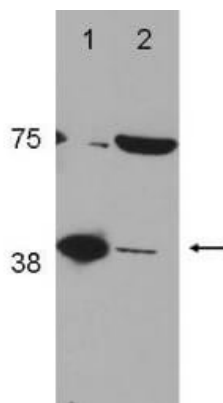
Nucleus. Cytoplasm. Note=Cytoplasmic in normal conditions. Translocates to the nucleus following DNA damage

**Anti-POLB (DNA polymerase beta) (RABBIT) 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-POLB (DNA polymerase beta) (RABBIT) Antibody - Images**



Western Blot of Rabbit Anti-POL $\beta$  (DNA polymerase beta) Antibody (600-401-C65). Lane 1: LN428 FLAG POL $\beta$  (control). Lane 2: A172 (p/n W09-001-GL5). Load: 35  $\mu$ g per lane. Primary antibody: POL $\beta$  antibody at 1:2000 for overnight at 4°C. Secondary antibody: IRDye800™ goat anti-rabbit at 1:10,000 for 45 min at RT. Block: 5% BLOTTO (p/n B501-0500) overnight at 4°C. Predicted/Observed size: ~40 kDa, ~40 kDa. Other band(s): unknown band ~75 kDa.

#### **Anti-POLB (DNA polymerase beta) (RABBIT) Antibody - Background**

The POL $\beta$  protein belongs to the DNA polymerase type-X family. It is a DNA polymerase involved in gap-filling DNA synthesis or base excision and repair in a stepwise distributive fashion unlike other DNA polymerases. It is required for DNA maintenance, replication, recombination, and drug resistance. It is normally found as a monomer, in the cytoplasm and it translocates to the nucleus upon DNA damage.