

# Recombinant human DNA polymerase beta/POLB protein

Catalog Number: ATGP1190

## PRODUCT INFORMATION

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### Expression system

E.coli

### Domain

1-335aa

### UniProt No.

P06746

### NCBI Accession No.

NP\_002681.1

### Alternative Names

DNA polymerase beta, DNA directed DNA polymerase beta, Polymerase (DNA directed) beta, DNA pol beta, DNA polymerase beta subunit, MGC125976, Pol B, Pol beta

## PRODUCT SPECIFICATION

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### Molecular Weight

40.3 kDa (355aa) confirmed by MALDI-TOF

### Concentration

0.5mg/ml (determined by Bradford assay)

### Formulation

Liquid in. 20mM Tris-HCl buffer (pH 8.0) containing 1mM DTT, 30% glycerol, 0.1M NaCl

### Purity

> 95% by SDS-PAGE

### Tag

His-Tag

### Application

SDS-PAGE

### Storage Condition

Can be stored at +2C to +8C for 1 week. For long term storage, aliquot and store at -20C to -80C. Avoid repeated freezing and thawing cycles.

## BACKGROUND

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### Description

DNA polymerase beta, also known as POLB, belongs to the DNA polymerase type-X family. In eukaryotic cells, DNA polymerase beta (POLB) performs base excision repair (BER) required for DNA maintenance, replication, recombination, and drug resistance. POLB has two distinct domains, the larger is the polymerase domain itself, whereas a small basic N-terminal domain contains an AP lyase activity that excises the abasic sugar-phosphate residue at the strand break. POLB fills single nucleotide gaps in DNA produced by the base excision repair

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pathway of mammalian cells. Overexpression of POLB, as found in some human tumors, could confer an increase in spontaneous mutagenesis. Recombinant human POLB protein, fused to His-tag at N-terminus, was expressed in *E. coli* and purified by using conventional chromatography techniques.

## Amino acid Sequence

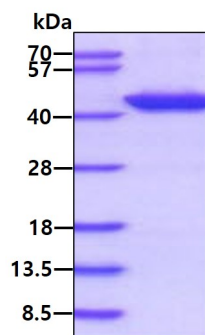
<MGSSHHHHHH SSGLVPRGSH> MSKRKAPQET LNGGITDMLT ELANFEKNVS QAIHKYNAYR KAASVIKYP  
HKIKSGAEAK KLPGVGKIA EKIDEFLATG KLRKLEKIRQ DDTSSSINFL TRVSGIGPSA ARKFVDEGIK TLEDLRKNED  
KLNHHQRIGL KYFGDFEKRI PREEMLQMQD IVLNEVKKVD SEYIATVCGS FRRGAESSGD MDVLLTHPSF TSESTKQPKL  
LHQVVEQLQK VHFITDTLSK GETKFMGVCQ LPSKNDEKEY PHRRIDIRLI PKDQYYCGVL YFTGSDIFNK NMRAHALEKG  
FTINEYTIRP LGVTGVAGEP LPVDSEKDIF DYIQWKYREP KDRSE

## General References

Bambara R A., et al. (1991) *Biochim Biophys Acta*. 1088:11-24.  
Ropp P A., et al. (1996) *Genomics*. 36:449-458.

## DATA

### SDS-PAGE



3 $\mu$ g by SDS-PAGE under reducing condition and visualized by coomassie blue stain.