

Recombinant Human POLB, His-tagged

Cat. No. POLB-1014H Lot. No. (See product label)

SPECIFICATION

Product Overview	Recombinant human POLB protein, fused to His-tag at N-terminus, was expressed in E.coli and purified by using conventional chromatography techniques (1-335aa).
Species	Human
Source	E.coli
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 pathway of mammalian cells. Overexpression of POLB, as found in some human tumors, could confer an increase in spontaneous mutagenesis.
Form	Liquid. In 20mM Tris-HCl buffer (pH 8.0) containing 1mM DTT, 30% glycerol, 0.1M NaCl
Molecular Weight	40.3 kDa (355aa), confirmed by MALDI-TOF
Purity	> 90% by SDS - PAGE
Concentration	0.5 mg/ml (determined by Bradford assay)

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Sequences of amino acids

MGSSHHHHHH SSGLVPRGSH MSKRKAPQET LGGITDMLT ELANFEKNVS
 QAIHKYNAYR KAASVIAKYP HKIKSGAEAK KLPGVGTKIA 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

Storage

Can be stored at +4°C short term (1-2 weeks). For long term storage, aliquot and store at -20°C or -70°C. Avoid repeated freezing and thawing cycles.

Pathways

Base excision repair; DNA Repair

GENE INFORMATION
Gene Name

POLB polymerase (DNA directed), beta [Homo sapiens]

Official Symbol

POLB

Synonyms

POLB; polymerase (DNA directed), beta; MGC125976; DNA polymerase beta; DNA pol beta; DNA polymerase beta subunit; EC 2.7.7.7

Gene ID

5423

mRNA Refseq

NM_002690

Protein Refseq

NP_002681

MIM

174760

UniProt ID

P06746

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Chromosome Location	8p11.2
Function	DNA-directed DNA polymerase activity; damaged DNA binding; enzyme binding; lyase activity; metal ion binding; microtubule binding; nucleotidyltransferase activity; protein binding; transferase activity
PDB rendering based on 1bno.	