POLB Human Recombinant Protein

PRODUCT OVERVIEW

Product Name	POLB, Recombinant Protein
Full Product Name	Recombinant Human POLB Protein
Product Gene Name	POLB recombinant protein
Product Synonym Names	DNA polymerase beta
Sequence	MSKRKAPQET LNGGITDMLT 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 KDRSEVEHHH HHH
Host	E Coli
Species Reactivity	Human
Form/Format	Supplied as a 0.2 muM filtered solution of 20mM Tris-HCl, 100mM NaCl, 1mM DTT, 1mM EDTA, 50% Glycerol, pH 7.8.
Purity/Purification	Greater than 95% as determined by SEC-HPLC and reducing SDS-PAGE.
Preparation and Storage	Lyophilized protein should be stored at -20 degree C, though stable at room temperature for 3 weeks. Reconstituted protein solution can be stored at 2-8 degree C for 2-7 days. Aliquots of reconstituted samples are stable at -20 degree C for 3 months.
Molecular Weight	38,178 Da
OMIM	L11607 mRNA
3D Structure	ModBase 3D Structure for P06746
Endotoxin	Less than 0.1 ng/mug (1 IEU/mug) as determined by LAL test.
Directions for Use	Always centrifuge tubes before opening. Do not mix by vortex or pipetting. It is not recommended to reconstitute to a concentration less than 100 mug/ml. Dissolve the lyophilized protein in 1X PBS. Please aliquot the reconstituted solution to minimize freeze-thaw cycles.
Applications Tested/Suitable for POLB recombinant protein	ELISA (EIA),Western Blot (WB), SDS-PAGE, Mass Spectrometry (MS)
Related Product Information for POLB recombinant protein	Recombinant Human POLB Protein is produced by our E Coli expression system and the target gene encoding Ser2-Glu335 is expressed with a 6His tag at the C-terminus.
Other Notes	Small volumes of POLB recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for POLB purchase	MBS8249616 is a recombinant protein targeting POLB. Also known as Recombinant Human POLB Protein. Reactive in Human. Host: E Coli.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for POLB. It may not necessarily be applicable to this product.

NCBI GI #	4505931
NCBI GeneID	5423

NCBI Accession #	NP_002681.1
UniProt Primary Accession #	P06746
UniProt Secondary Accession #	Q3KP48; Q6FI34; B2RC78
UniProt Related Accession #	P06746
GenBank Nucleotide #	NM_002690.2
NCBI Official Full Name	DNA polymerase beta
NCBI Official Synonym Full Names	DNA polymerase beta
NCBI Official Symbol	POLB
UniProt Protein Name	DNA polymerase beta
Protein Family	DNA polymerase
UniProt Gene Name	POLB
UniProt Entry Name	DPOLB_HUMAN
NCBI Protein Information	DNA polymerase beta
NCBI Summary for POLB	The protein encoded by this gene is a DNA polymerase involved in base excision and repair, also called gap-filling DNA synthesis. The encoded protein, acting as a monomer, is normally found in the cytoplasm, but it translocates to the nucleus upon DNA damage. Several transcript variants of this gene exist, but the full-length nature of only one has been described to date. [provided by RefSeq, Sep 2011]
UniProt Comments for POLB	POLB: Repair polymerase that plays a key role in base-excision repair. Has 5'-deoxyribose-5-phosphate lyase (dRP lyase) activity that removes the 5' sugar phosphate and also acts as a DNA polymerase that adds one nucleotide to the 3' end of the arising single-nucleotide gap. Conducts 'gap-filling' DNA synthesis in a stepwise distributive fashion rather than in a processive fashion as for other DNA polymerases. Monomer. Interacts with APEX1, HUWE1/ARF-BP1, STUB1/CHIP and USP47. Belongs to the DNA polymerase type-X family. Protein type: DNA repair, damage; DNA replication; EC 2.7.7.7; Lyase; Transferase Chromosomal Location of Human Ortholog: 8p11.2 Cellular Component: cytoplasm; microtubule; nucleoplasm; nucleus; protein complex; spindle microtubule Molecular Function: DNA-(apurinic or apyrimidinic site) lyase activity; DNA-directed DNA polymerase activity; enzyme binding; lyase activity; microtubule binding; protein binding Biological Process: base-excision repair; base-excision repair, base-free sugar-phosphate removal; base-excision repair, DNA ligation; DNA repair; DNA-dependent DNA replication; nucleotide-excision repair, DNA gap filling; response to DNA damage stimulus
Research Articles on POLB	**1.** Data show that esophageal carcinoma (EC) cells expressing the DNA polymerase beta K167I variant to be sensitive to DNA damaging agents.
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