

Protein :	<i>Thermus aquaticus</i> DNA Polymerase ; recombinant
Lot # :	112706BM
Concentration :	5,000 units/ml ; 0.038 mg/ml
Package format :	2x 500µl = 5000 units enzyme. Also included is 3.0ml 10X reaction buffer .
10X Reaction Buffer:	750mM Tris pH 8.8 20mM MgCl₂ 200mM (NH₄)₂SO₄ 0.1%v/v Tween 20
Description :	Taq DNA polymerase is a thermostable DNA polymerase with 5'-3' polymerase activity and low 5'-3' exonuclease activity . This protein is wild-type, recombinant DNA polymerase derived from <i>Thermus aquaticus</i> and expressed in <i>E.coli</i>.
Protein Uses :	Primer extension (2) , polymerase chain reaction (1,5) , DNA sequencing (3,4) and site-directed mutagenesis.
Properties :	The enzyme features strand displacement capability , an error rate of one in 4.5x10⁴ bases and has low 5'-3' exonuclease activity. Like other DNA polymerases without 3'-5' exonuclease activity, <i>Taq</i> DNA Polymerase exhibits deoxynucleotidyl transferase activity, which results in the addition of extra adenines at the 3'-end of PCR products.

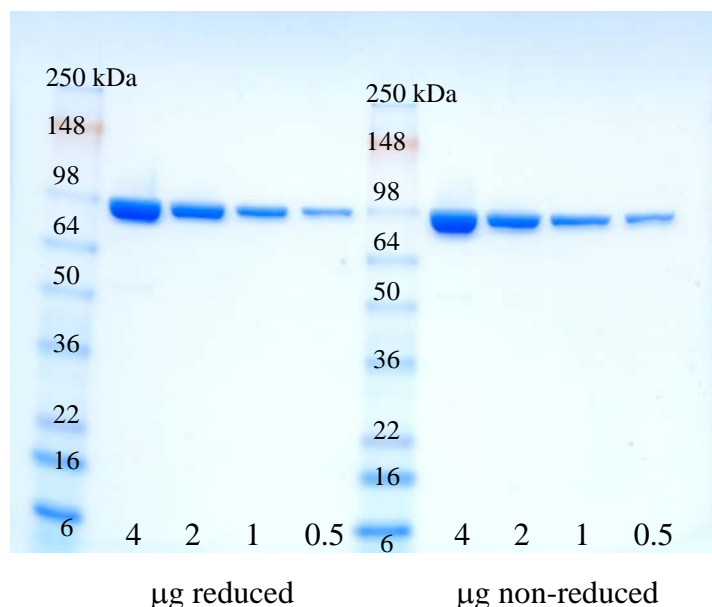


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Concentration :
5,000 units/ml ; 0.038mg/ml

Formulation :
20mM Tris pH 8.0
0.1mM EDTA
1mM DTT
0.5% Igepal Ca-630
0.5% Tween 20
50% v/v Glycerol



Quality Assessment	Assay	Result
dsDNA endonuclease	Degrade ΦX174 RF	None Detected
ssDNA endonuclease	Degrade M13mp18	None Detected
5' dsDNA exonuclease	Removal of labeled nucleotide from 5' end of a dsDNA oligonucleotide	None Detected
5' ssDNA exonuclease	Removal of labeled nucleotide from 5' end of a ssDNA oligonucleotide	Active
3' ssDNA+dsDNA exonuclease	Removal of labeled nucleotide from 3' end of a ssDNA or a dsDNA oligonucleotide	None Detected
unit functional assay	1 unit incorporates 10nMol ³² P dCTP into acid insoluble material in 30 minutes at 74°C using activated salmon testes DNA as substrate	Greater than 100,000 units/mg protein

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2. Eckert KA, and Kunkel TA. Nucleic Acids Res. (1990), 18(13), 3739-44.
3. Ishino, Y et al. (1994) J. Biochem. 116 (5), 1019-1024
4. Kusakawa N et al. Biotechniques. 1990 9(1), 66-8, 70, 72.
5. Schmidt T. M. et al. Biotechniques. (1991) 11(2):176-7

