

<b>Protein :</b>	<b><i>Thermus aquaticus</i> DNA Polymerase ; recombinant</b>
<b>Lot # :</b>	<b>112706HCBM</b>
<b>Concentration :</b>	<b>50,000 units/ml ; 0.38 mg/ml</b>
<b>Package format :</b>	<b>100µl = 5000 units enzyme. Also included are 3.0ml 10X reaction buffer and 1.0ml Dilution Buffer</b>
<b>10X Reaction Buffer:</b>	<b>750mM Tris pH 8.8 20mM MgCl<sub>2</sub> 200mM (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub> 0.1%v/v Tween 20</b>
<b>1X Dilution Buffer:</b>	<b>20mM Tris pH 8.0 0.1mM EDTA 1mM DTT 0.5% v/v Tween 20 0.5% v/v Igepal CA-630 50% v/v Glycerol</b>
<b>Description :</b>	<b>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>.</b>
<b>Protein Uses :</b>	<b>Primer extension (2) , polymerase chain reaction (1,5) , DNA sequencing (3,4) and site-directed mutagenesis.</b>
<b>Properties :</b>	<b>The enzyme features strand displacement capability , an error rate of one in 4.5x10<sup>4</sup> 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.</b>

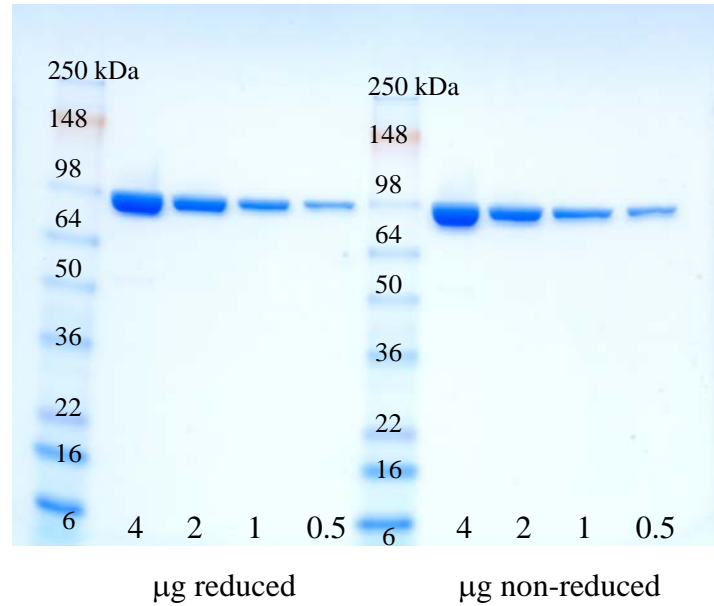


**Protein :** *Thermus aquaticus* DNA Polymerase ; recombinant

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**Concentration :**  
50,000 units/ml ; 0.38mg/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 <sup>32</sup> 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.
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