

Taq DNA Polymerase

Cat. No. CMC06 **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Source	E.coli
Description	Taq DNA Polymerase is a thermostable enzyme of approximately 94kDa purified from the expression product of E. coli strain that carries the Taq DNA Polymerase gene from <i>Thermus aquaticus</i> YT1. This unmodified enzyme replicates DNA at 74°C and exhibits a half-life of 40 minutes at 95°C. The enzyme catalyzes the polymerization of nucleotides into duplex DNA in the 5'→3' direction in the presence of magnesium and also possesses a 5'→3' exonuclease activity. Taq DNA Polymerase is recommended for use in PCR but is not recommended for use in DNA sequencing reactions.
Feature	Depend on an Enzyme That Works: Compositions of the storage buffers have been optimized to assure quality performance of the enzyme under a variety of conditions. Specify Your Own Reaction Conditions: Choose either Taq with Mg-free 10× Reaction Buffer and separate 25mM MgCl ₂ or Taq with 10× Reaction Buffer containing 15mM MgCl ₂ . Rely on a Performance-Tested Enzyme: Creative BioMart PCR systems, enzymes and reagents are proven in PCR to ensure reliable, high-performance results. If you are not completely satisfied with any of our PCR product, we will send a replacement or refund your account.
Applications	PCR. 3' A-tailing of blunt ends, compatible with T-Vectors.
Unit Definition	One unit is defined as the amount of enzyme required to catalyze the incorporation of 10nmol of dNTP into acid-insoluble material in 30 minutes at 74°C. The reaction

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	conditions are: 50mM Tris-HCl (pH 9.0 at 25°C), 50mM NaCl, 5mM MgCl ₂ , 200μM each of dATP, dCTP, dGTP, dTTP (a mix of unlabeled and [3H]dTTP), 10μg activated calf thymus DNA and 0.1mg/ml BSA in a final volume of 50μl.
Quality Control Tests	PCR, activity, SDS-PAGE (purity), endonuclease/nickase.
Storage	Taq DNA polymerase in 20mM Tris-HCl, pH 8.0, 100mM KCl, 0.1mM EDTA, 5mM DTT, 50% glycerol, 0.5% NP40 and 0.5% Tween 20 should be stored at -20°C.
10× Reaction Buffer	10× Reaction Buffer with MgCl ₂ : 500mM KCl, 100mM Tris-HCl (pH 9.0 at 25°C), 1% Triton X-100 and 15mM MgCl ₂ . Buffer is optimized for use with 0.2mM of each dNTP. 10× Reaction Buffer without MgCl ₂ : 500mM KCl, 100mM Tris-HCl (pH 9.0 at 25°C) and 1% Triton X-100. Include: 10× Reaction Buffer without MgCl ₂ and separate 25mM MgCl ₂ Solution.
Reaction Conditions:	To amplify a 1kb DNA template Set up PCR reactions as follows: Taq DNA Polymerase 0.2μl 2.5mM dNTP Mixture 4μl 10× Reaction Buffer w/o MgCl ₂ 5μl 25mM MgCl ₂ 3μl 10μM Primers 1μl each Template ~1μl ddH ₂ O 35μl