Taq DNA Polymerase

REF TAQ-500 (500 U); TAQ-2500 (5x 500 U)

Concentration: 5 U/µL

Store at: -20°C

Description:
ViennaLab Taq DNA Polymerase is an optimized DNA polymerase for all standard PCR applications. It uses the same reaction setup and cycling conditions as other conventional Taq DNA polymerases, but ensures higher sensitivity and higher yields even for longer PCR fragments.

10x PCR Buffer:
The enzyme is supplied with a 10x PCR buffer containing KCl and $(NH_4)_2SO_4$ in an optimized ratio. The buffer is a proprietary formulation for optimal and robust performance of Taq DNA Polymerase in standard PCR. The 10x PCR buffer includes 20 mM $MgCl_2$.

Features and Applications:
- genomic templates: amplification of DNA fragments up to 6 kb
- viral templates: amplification of DNA fragments up to 20 kb
- RT-PCR
- generating 3'-dA overhangs
- incorporation of modified nucleotides

Inhibition:
- ionic detergents (>0.06% deoxycholate, >0.02% sarkosyl and >0.01% SDS)
- dUTP

Inactivation:
- phenol/chloroform extraction

Storage Buffer:
20 mM Tris-HCl (pH 8.0), 1 mM DTT, 0.1 mM EDTA, 100 mM KCl, 0.5% (v/v) Tween 20 and 50% (v/v) glycerol.

Unit definition:
One unit of Taq DNA Polymerase is defined as the amount of enzyme that incorporates 10 nmol of deoxyribonucleotides into a polynucleotide fraction adsorbed on DE-81 within 30 min at 70°C, measured under the following assay conditions: 67 mM Tris-HCl (pH 8.8 at 25°C), 6.7 mM $MgCl_2$, 1 mM 2-mercaptoethanol, 50 mM NaCl, 0.1 mg/mL BSA, 0.75 mM activated calf thymus DNA, 0.2 mM of each dNTP, 0.4 MBq/mL [^{3}H]-dTTP.

Quality control:
The enzyme was tested negative for endonuclease, exonuclease and ribonuclease activity. Each batch of Taq DNA Polymerase is assayed for amplification of a 956 bp single copy gene fragment from human genomic DNA and for amplification of a 20 kb lambda DNA fragment.

Manufacturer:

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