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DNA
Recombinant Taq DNA Polymerase

Catalog No.	CSI10700	**Quantity:**	1,000 U
	CSI10701		3,000 U
	CSI10702		10,000 U

Alternate Names: DNA polymerase I thermostable, Taq polymerase 1, EC 2.7.7.7

Description: Taq DNA Polymerase is a thermostable enzyme of approximately 94 kDa isolated from the bacterium Thermus aquaticus. 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 5´~3´ exonuclease activity. Taq DNA Polymerase is recommended for use in PCR but is not recommended for use in DNA sequencing reactions.

Unit Definition: One unit is defined as the amount of enzyme required to catalyze the incorporation of 10 nmol of dNTP into acid-insoluble material in 30 minutes at 74°C. The reaction conditions are: 50 mM Tris-HCl (pH 9.0 at 25°C), 50 mM NaCl, 5 mM $MgCl_2$, 200 µm each of dATP, dCTP, dGTP, dTTP (a mix of unlabeled and [3H]dTTP), 10 µg activated calf thymus DNA, 0.1mg/ml BSA in a final volume of 50 ul.

10X Reaction Buffers: **10X Reaction Buffer with $MgCl_2$** 500 mM KCl, 100 mM Tris-HCl (pH 9.0 at 25C), 1% Triton X-100, 15 mM $MgCl_2$. Buffer is optimized for use with 0.2mM of each dNTP.
10X Reaction Buffer without $MgCl_2$ 500 mM KCl, 100 mM Tris-HCl (pH 9.0 at 25C), 1% Triton X-100.

Specify Buffer: Choose either:
Taq with **10X Reaction Buffer without $MgCl_2$ and separate 25 mM $MgCl_2$**, or
Taq with **10X Reaction Buffer containing 15 mM $MgCl_2$**

Source: *E. coli* containing the *Thermus aquaticus* polymerase gene.

Molecular Weight: 94 kDa

Formulation: Taq DNA Polymerase solution in 20 mM Tris-HCl, pH 8.0, 100 mM KCl, 0.1 mM EDTA, 5 mM DTT, 50% Glycerol, 0.5% NP40, 0.5% Tween 20.

Purity: > 95% by SDS-PAGE analysis

Quality Control Tests: PCR, activity, SDS-PAGE/purity, endonuclease/nickase.

Applications: PCR, 3´ A-tailing of blunt ends, compatible with Vectors.

Storage & Stability: Stable for 5 days at 2-8°C, for longer period of time store at -20°C to -80°C.

Storage Buffer: Compatibility with Reaction Buffers: Taq DNA Polymerase in Storage Buffer. Use of other reaction buffers that do not contain Triton X-100 (final concentration of 0.1%) will result in inactivation of the enzyme. 50 mM Tris-HCl (pH 8.0), 100 mM NaCl, 0.1 mM EDTA, 1 mM DTT, 50% glycerol, 1% Triton X-100.

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