

Recombinant Taq Plus Pfu DNA Polymerase

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| Catalog No. | CSI10703 | Quantity: | 250 U |
| | CSI10704 | | 750 U |
| | CSI10705 | | 2500 U |

Alternate Names: Taq Plus DNA Polymerase, Taq Plus DNA, TaqPDNA.

Description: Taq Plus is a mixture of Taq and Pfu. Taq Plus is used to improve the reliability and yield of the conventional Taq primer extension reaction. Taq Plus has two following advantages over Taq:
 (1) high fidelity with an error frequency 1.6/106 (or 0.0016/103) during DNA synthesis. (2) Taq Plus increases the efficiency of polymerization reaction, resulting in a great percentage of extenuation reaction completion up to 10 kb to 30 kb. Pfu has a temperature optimum between 72-78°C and remains > 95% active following 1-hour incubation at 95°C.

Concentration: 5 Units/μl

Source: *E.coli* contains Thermus aquaticus polymerase gene

Formulation: Liquid in a storage buffer of 20 mM Tris-HCl, pH 8.0 + 1 mM DTT + 0.1 mM EDTA + 100 mM KCl + Stabilizers + 50% glycerol

Unit Definition: One unit of the enzyme catalyzes the incorporation of 10 nmole of deoxyribonucleotides into a polynucleotide fraction in 30 min at 74°C.

Reaction Conditions: DNA synthesis is performed in 100 μl mixture containing 20-200 M dNTPs, 0.3-1 M Promers, 0.1-0.250 mg of template DNA, 10 μl of 10 x reaction buffer and 2.5-5 units of Taq Plus. Mix the reaction gently, centrifuge briefly and then overlay with light mineral oil. Initially, denature the reaction by incubating at 95°C for 5 minutes and then cool to 40 -68°C for 5 minutes to allow the primers to anneal to the template DNA.

10X Reaction Buffer: 200 mM Tris-HCl, pH 8.8, + 100 mM KCl + 100 mM (NH₄)₂SO₄ + 20 mM Mg₂SO₄ + 1% Triton X-100 + 1 mg/ml bovine serum albumin (BSA).

Note: All reagents, including Taq Plus, should be mixed immediately before use.

Optimization of DNA Synthesis: It is important to ad the reaction components in the following order :

1. H₂O
2. 10 x reaction buffer
3. dNTPs
4. DNA template and primers
5. Taq Plus

Storage & Stability: Stable for 5 days at 2-4°C, for longer period of time store at -20°C.

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