

Taq DNA Polymerase (Catalog# TBS4010)

DESCRIPTION

Taq DNA Polymerase is a thermostable DNA polymerase that possesses a 5'→3' polymerase activity and a 5'→3' exonuclease activity. Taq DNA Polymerase is the most common polymerase used for PCR.

APPLICATIONS

PCR
Primer Extension
DNA Sequencing

KEY FEATURES

Terminal Transferase Activity: Taq DNA Polymerase has terminal transferase activity which results in the addition of a single nucleotide (adenosine) at the 3' end of the extension product.

KIT CONTENTS (200 tests)

Taq DNA Polymerase: 100 µL (5 U/ µL)
10 x PCR Buffer: 1.5 mL
10 mM dNTPs: 0.5 mL
10x DNA Loading Buffer 1.0 ml

Storage conditions: The undiluted enzyme solution is stable when stored at -20°C. Shelf life: 12 months after receipt.

10 X Reaction buffer: 100mM Tris-HCl (pH 8.3); 500mM KCl; 25mM MgCl₂ and stabilizer.

General protocol using Taq DNA polymerase:

1. Thaw all the reagents on ice. Vortex to mix fully and then spin down briefly.
2. Set up 50 µL PCR reaction in a microPCR tube on ice by adding the following components:

Component	Volume (µL)
10 PCR buffer	5.0
Forward Primer (25 uM)	1.0
Reverse Primer(25 uM)	1.0
Taq polymerase	0.5
DNA template	X
10 mM dNTPs	2.0
H2O	To 50

3. PCR condition: Perform 25~35 cycles of PCR amplification as follows:

Initial denaturing: 94 °C for 3 min
Then 25~30 cycles of: 94°C for 30 s
55°C for 30s
(Annealing temperature based on primes)
72°C for 60s
(Extension time depends on the length of PCR products)
Extension: 72°C for 5min

4. Analyze PCR fragments on an agarose or polyacrylamide gel.

MATERIALS REQUIRED, BUT NOT PROVIDED

Pipeting devices and accessories.
Rnase and Dnase Free H₂O (Catalog# TBS5036)

REFERENCES

1. Saiki RK, Gelfand DH, Stoffel S, Gelfand S, et al. Primer-directed enzymatic amplification of DNA with a thermostable DNA polymerase. *Science*, 239: 487-491 (1988)
2. Chien A, Edgar DB and Trela JM (1976). Deoxyribonucleic acid polymerase from the extreme thermophile *Thermus aquaticus*. *J. Bact.*, 127, 1550-1557 (1976).

RELATED PRODUCTS

2 x PCR Hot Start Master (catalog# TBS4002)
2 x qPCR Hot Start Super Mix(catalog#TBS4001)
DEPC-Treated Water (catalog# TBS5036)