

Cat No.

XT61002	250 Units
XT61005	500 Units

Features

- Thermostable enzyme of approximately 94kDa from *Thermus aquaticus*.
- Ultra pure recombinant protein.
- Replicates DNA at 74°C and exhibits a half-life 40 minutes at 95°C.
- Generates mostly 3' dA overhang PCR products which are suitable for TA cloning.

Description

X-Taq DNA Polymerase is a thermostable DNA polymerase. It is suitable for applications requiring high temperature synthesis of DNA. Taq DNA Polymerase catalyzes the polymerization of nucleotides into duplex DNA in the 5' to 3' direction with the presence of Mg²⁺ but maintains the 5' to 3' exonuclease activity.

Product Specifications

Concentration: 5U/ul

Supplied with

	250 Unit	500 Unit
X-Taq DNA Polymerase	50 uL	100 uL
10x Buffer A	1.2 mL	2 x 1.2 mL
50mM MgCl ₂	1 mL	1 mL
10mM dNTP mix	1 mL	1 mL

Reaction Buffer

10X Buffer A (without MgCl₂):
500mM KCl, 100mM Tris-HCl (pH 9.1 at 20°C) and 0.1% Triton™ X-100. The buffer is optimized for use with 0.1 - 0.2mM of each dNTP.

Storage Buffer

20mM Tris-HCl (pH 8.0 at 22°C), 100 mM KCl, 0.5% Tween™ 20, 0.5% Nonidet-P40, 0.1mM EDTA, 1mM DTT and 50% glycerol.

Storage Conditions

X-Taq DNA Polymerase can be stored for 12 month at -20°C.

Shipping Conditions

On Dry Ice or Blue Ice.

Quality Control

All preparations are assayed for contaminating endonuclease, exonuclease, and non-specific DNase activities. Functionally tested in DNA amplification.

Unit Definition

1u is defined as amount of enzyme that required to catalyze the incorporation of 10nmoles of dNTP into acid-insoluble material in 30 minutes at 74°C.

PCR Reaction Conditions (for a 50uL reaction)

10x Buffer A	5 uL
X-Taq DNA Polymerase (5 units/uL)	2.0 - 2.5 uL
50mM MgCl ₂	1.0 - 2.0 uL
10mM dNTP mix	1.0 uL
Template	< 500 ng
Primers	0.2 - 1.0 uM
Water (ddH ₂ O)	up to 50 uL

PCR Condition

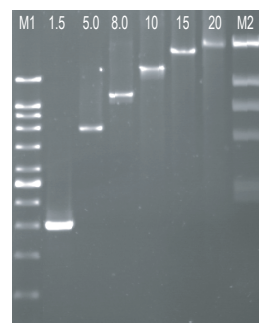
PreDenaturation	94°C, 2 min
Denaturation	94°C, 30 sec
Annealing	50 - 68 °C, 30 sec
Extension/1kb	72°C, 30 sec
Cycles	35 cycles
Final Extension	72°C, 7 min

Notes:

Denaturation condition varies depending on an used thermal cyclers and tube. It is recommended for 10 - 30 sec. at 94°C.

The suggested final concentration of Mg²⁺ in the reaction is likely to be 2 - 4 mM, but some optimization may necessary to achieve the best possible results.

This data is intended for use as a guide only; conditions will vary from reaction to reaction and may need optimization.


Amplification Using X-Taq DNA Polymerase

Lane M1	: 1kb DNA Ladder
Lane 1.5kb	: 1.5kb PCR product generated using 0.2mM dNTPs and 2.0u X-Taq DNA Polymerase.
Lane 5kb and 8kb	: 5kb and 8kb PCR products generated using 0.25mM dNTPs, 2.5u X-Taq DNA Polymerase and 3% of formamide.
Lane 10kb-20kb	: 10kb, 15kb and 20kb PCR products generated using 0.36mM dNTPs, 2.5u X-Taq DNA Polymerase and 3% formamide.
Lane M2	: Lambda / Hind III Marker

0.5% TAE agarose gel, 5V/cm