

**Cat No.**

XT63002	250 Units
XT63005	500 Units

**Features**

- Ultra pure recombinant protein which is reversibly complex with anti-Taq monoclonal antibody that blocks replication activity of the enzyme at moderate temperatures.
- Carefully selected anti-Taq antibodies have high thermal stability, providing protection against non-specific primer extension from room temperature to 80°C.
- Formation of complexes between Taq DNA Polymerase and an anti-Taq antibody forms a basis for automatic "hot start" amplification, which allows for the assembly of amplification reactions at room temperature.
- High stability of the complexes allows for the enormous increase in amplification specificity, sensitivity and yield in comparison to the conventional amplification assembly method.
- Increased specificity as a result of reduced amplification artifacts such as primer-dimer formation and mispriming in multiplex amplification.

**Description**

X-HotTaq DNA Polymerase is a complex of specific anti-Taq monoclonal antibody with top quality thermostable Taq DNA Polymerase for automatic "hot start" amplification, resulting in greatly enhanced amplification specificity, sensitivity and yield. X-HotTaq DNA Polymerase catalyzes the polymerization of nucleotides into duplex DNA in the 5' to 3' direction in the presence of Mg<sup>2+</sup> and has the 5' to 3' exonuclease activity.

**Product Specifications**

Concentration: 5U/ul

Supplied with

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

**Reaction Buffer**

10X Buffer A (without MgCl<sub>2</sub>):  
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-Hot Taq DNA Polymerase can be stored for 12 month at -20°C.

**Shipping Conditions**

On Dry Ice or Blue Ice.

**Quality Control**

All preparation are assayed for contaminating endonuclease, 3'-exonuclease, and non-specific single- and double stranded DNase activities.

**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-HotTaq DNA Polymerase (5 units/uL)	2.0 - 2.5 uL
50mM MgCl <sub>2</sub>	1.0 - 2.0 uL
10mM dNTP mix	1.0 uL
Template	< 500 ng
Primers	0.2 - 1.0 uM
Water (ddH <sub>2</sub> 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 Mg<sup>2+</sup> 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.