— PROTOCOL —

Nano *Taq* Hot-Start DNA Polymerase

Catalog Number	Unit Size	Reactions
DP001-0100	500 units	Conc. 5 units/5 µl

Storage : Store at -20°C

Description

Bio-Helix Nano *Taq* DNA Polymerase was designed as one of enhanced hot start enzyme DNA Polymerases which provide the convenience and reliability toward your research destination. Nano *Taq* was engineered with nano technology complex, which is an innovative creation, different from the traditional methods of hot start enzymes made. The proven features of Nano *Taq* covers reactions at room temperature using the same protocol and cycling conditions as conventional *Taq* DNA polymerases, reducing nonspecific primer annealing, improving product yield and using for PCR products up to 5kb.

Kit content

Nano *Taq* Hot-Start DNA Polymerase	500 units/500 µl
10X PCR buffer	600 µl

Unit Definition

One unit is defined as the amount of enzyme that will catalyze the incorporation of 10 nmol of dNTP into acid-insoluble form in 30 min at 74°C in a reaction containing 25 mM TAPS (tris-[hydroxymethyl]-methyl-amino-propane-sulfonic acid, sodium salt), pH 9.3 at 25°C, 50 mM KCl, 2 mM MgCl2, 1 mM β-mercaptoethanol, 0.2 mM dATP, dGTP, and dTTP, 0.1 µM [α-32P] dCTP, and activated salmon sperm DNA.

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Standard PCR with Nano *Taq* Hot-Start DNA Polymerase

1. For each 50 µl reaction, assemble the following in a 0.2 ml PCR tube on ice just prior to use:

	Volume	Final Conc.
DNA template	- µl	3 ng
Forward primer, 5-10 µM	2.5 µl	0.25-0.5 µM
Reverse primer, 5-10 µM	2.5 µl	0.25-0.5 µM
dNTP Mix (10 mM each dATP, dCTP, dGTP, dTTP)	1 µl	200 µM
10X PCR buffer	5 µl	
Nano *Taq* Hot-Start DNA Polymerase	5 µl	-
PCR Grade Water	Add to 50 µl	-
Total volume	50 µl	

2. Mix gently. If necessary, centrifuge briefly. Cap tubes and place in thermal cycler.

3. Process in thermal cycler for 30-35 cycles as follows:

Initial Denaturation	3 min at 95°C	
Denaturation	30 sec	30-35 cycles
Annealing	30 sec at the proper annealing temperature	
Extension	1 min at 72°C	
Final extension	5 min at 72°C	

Note: Optimal conditions for amplification will vary depending on the primers and thermal cycler used. It may be necessary to optimize the system for individual primers, template, and thermal cycler.