

HelixAmp™ *Hot-Taq* Polymerase (Ver. 2.0)

Kit Contents

HelixAmp™ <i>Hot-Taq</i> Polymerase (Ver. 2.0)			
Cat. No.	HT250/HT250N (250units)	HT500/HT500N (500units)	HT2500/HT2500N (2,500units)
<i>Hot-Taq</i> (2.5unit/μl)	0.1ml	0.2ml	0.2ml x 5ea
10x <i>Hot-Taq</i> Buffer	1ml	1ml x 2ea	1ml x 10ea
dNTP Mix (each 10mM)	None / 0.2ml	None / 0.4ml	None / 0.4ml x 5ea
5x TuneUp™ Solution	None / 0.5ml	None / 0.5ml x 2ea	None / 0.5ml x 10ea
6x Loading Dye	0.5ml	1ml	1ml x 5ea
Blue Box	-	-	1ea
Instructions for Use	1ea	1ea	1ea

Description

HelixAmp™ *Hot-Taq* Polymerase (Ver. 2.0) is a chemically-modified form of purified *Taq* DNA polymerase and quite suitable for high-specific hot-start PCR, real-time PCR and multiplex PCR. The attached heat-labile chemical moiety makes *Taq* DNA polymerase inactive and suppresses the polymerization from non-specifically bound primers which occurs during the setting of PCR mix and first ramp-up of thermal cycling. During the first denaturation step of PCR the chemical moieties are released from *Taq* polymerase and the enzyme turns to be active. With the high specificity HelixAmp™ *Hot-Taq* Polymerase (Ver. 2.0) shows high performance in the reactions of genotyping (microsatellite or SNP), multiplex PCR, and realtime PCR. For the maximum performance extremely pure dNTPs and TuneUp™ Solutions are also included. TuneUp™ Solution helps the DNA polymerase to efficiently amplify the problematic target region of high G+C content or structural problem.

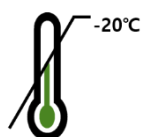
Application

Hot-Start PCR
Real-Time PCR
Genotyping
Multiplex PCR

Storage buffer

20mM Tris-HCl (pH 9.0), 100mM KCl,
0.1mM EDTA, 1mM DTT, stabilizers,
50% Glycerol

Storage



Store below -20°C

Shelf life



24 months

Concentration

2.5unit/μl

Quality Control

By Nanohelix's ISO 13485-certified quality management system, each lot of **HelixAmp™ Hot-Taq Polymerase (Ver. 2.0)** was tested against predetermined specifications to ensure consistent product quality.

Protocol

※ Although precipitates could be arised in the 10x Buffer, they will not affect the enzyme activities

1. Recommended amount of template DNA

Human genomic DNA : 10 ~ 100ng

Bacterial genomic DNA : 5 ~ 50ng

Purified plasmid or phage DNA : 1 ~ 5ng

2. Mix following components in a PCR tube

Components	Volumes (μl)
Template	X μl
10x Hot-Taq Buffer	5μl
dNTP Mix (each 10mM)	1μl
Forward Primer (10pmoles/μl)	2μl
Reverse Primer (10pmoles/μl)	2μl
5x TuneUp™ Solution	0 ~ 20μl
<i>Hot-Taq</i>	1.25units
RNase-free Water	to 50μl

※ **TuneUp™ Solution** is an additive altering the binding behavior of primer and template and can help the amplification that do not work well under standard PCR condition. Especially, **TuneUp™ Solution** can be used for the amplification of problematic template, such as high G+C content and repeat sequence regions. **TuneUp™ Solution** uses as adding into PCR reaction mixture from 0.5x to 2x.

3. PCR condition

Temperature & time	Cycles
95°C, 15 min	x 1
95°C, 20 sec	x 25 ~ 40
Annealing Temp., 40 sec	
72°C, 1 min/kb (Expected size of product)	
72°C, 5 min	x 1

Annealing Temp. = $T_m - (6 \sim 8^\circ\text{C})$

T_m (Melting Temp.) = $[4^\circ\text{C} \times (\text{G} + \text{C})] + [2^\circ\text{C} \times (\text{A} + \text{T})]$

Products

Cat. No.	Products	Size
HT250	HelixAmp™ <i>Hot-Taq</i> Polymerase (Ver. 2.0)	250units
HT250N	HelixAmp™ <i>Hot-Taq</i> Polymerase (Ver. 2.0) (with dNTP)	250units
HT500	HelixAmp™ <i>Hot-Taq</i> Polymerase (Ver. 2.0)	500units
HT500N	HelixAmp™ <i>Hot-Taq</i> Polymerase (Ver. 2.0) (with dNTP)	500units
HT2500	HelixAmp™ <i>Hot-Taq</i> Polymerase (Ver. 2.0)	2,500units
HT2500N	HelixAmp™ <i>Hot-Taq</i> Polymerase (Ver. 2.0) (with dNTP)	2,500units