

HelixAmp™ *Hot-Taq* Polymerase (Ver. 2.0) [MgCl₂ free]

Kit Contents

HelixAmp™ <i>Hot-Taq</i> Polymerase (Ver. 2.0) [MgCl ₂ free]			
Cat. No.	HTBF250/HTBF250N (250units)	HTBF500/HTBF500N (500units)	HTBF2500/HTBF2500N (2,500units)
<i>Hot-Taq</i> (2.5unit/μl)	0.1ml	0.2ml	0.2ml x 5ea
10x Mg free Buffer [Hot-Taq]	1ml	1ml x 2ea	1ml x 10ea
25mM MgCl ₂	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
Blue Box	-	-	1ea
Instruction for Use	1ea	1ea	1ea

Description

HelixAmp™ *Hot-Taq* DNA 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.

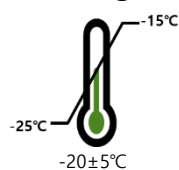
Application

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



Shelf life



Concentration

2.5unit/μl

NanoHelix Co., Ltd.

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Quality Control Assay

Contamination Assay for endo- and exodeoxyribonuclease

HelixAmp™ *Hot-Taq* Polymerase (Ver. 2.0) is a chemical-modified form of HelixAmp™ *Taq* Polymerase. HelixAmp™ *Hot-Taq* Polymerase was passed from quality control assay for contamination of endo- or exodeoxyribonuclease and the bacterial host DNA.

Quality authorized by Yountaek Go



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 Mg-free buffer [Hot-Taq]	5μl
25mM MgCl ₂	2 ~ 7μl ^(a)
dNTP Mix (each 10mM)	1μl
Forward Primer (10pmoles/μl)	2μl
Reverse Primer (10pmoles/μl)	2μl
5x TuneUp™ Solution ^(b)	0 ~ 20μl
<i>Hot-Taq</i>	1.25units
RNase-free Water	to 50μl

^(a) The optimal Mg²⁺ concentration should be determined empirically, but in most cases a concentration of 1.5 mM will produce satisfactory results.

^(b) **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.

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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
HTBF250	HelixAmp™ <i>Hot-Taq</i> Polymerase (Ver. 2.0) [MgCl ₂ free]	250units
HTBF250N	HelixAmp™ <i>Hot-Taq</i> Polymerase (Ver. 2.0) [MgCl ₂ free] (with dNTP)	250units
HTBF500	HelixAmp™ <i>Hot-Taq</i> Polymerase (Ver. 2.0) [MgCl ₂ free]	500units
HTBF500N	HelixAmp™ <i>Hot-Taq</i> Polymerase (Ver. 2.0) [MgCl ₂ free] (with dNTP)	500units
HTBF2500	HelixAmp™ <i>Hot-Taq</i> Polymerase (Ver. 2.0) [MgCl ₂ free]	2,500units
HTBF2500N	HelixAmp™ <i>Hot-Taq</i> Polymerase (Ver. 2.0) [MgCl ₂ free] (with dNTP)	2,500units

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