HelixAmp™ *Taq* Polymerase

Kit Contents

HelixAmp™ *Taq* Polymerase			
Cat. No.	**T500/T500N (500units)**	**T2500/T2500N (2,500units)**	**T5000/T5000N (5,000units)**
Taq (5unit/μl)	0.1ml	0.1ml x 5ea	0.1ml x 10ea
10x Taq Buffer	1ml x 2ea	1ml x 10ea	1ml x 20ea
dNTP Mix (each 10mM)	None / 0.4ml	None / 0.4ml x 5ea	None / 0.4ml x 10ea
5x TuneUp™ Solution	None / 0.5ml x 2ea	None / 0.5ml x 10ea	None / 0.5ml x 20ea
6x Loading Dye	1ml	1ml x 5ea	1ml x 10ea
Blue Box	-	1ea	2ea
Instruction for Use	1ea	1ea	1ea

Description

HelixAmp™ *Taq* Polymerase is a recombinant enzyme expressed and purified from a bacterial host cell harboring *Thermus aquaticus* DNA polymerase gene. HelixAmp™ *Taq* Polymerase is an engineered *Taq* DNA polymerase enforced its thermostability and template sensitivity. This highly purified thermostable DNA polymerase with unique NanoHelix's purification process is quite suitable for routine PCR. For the maximum performance extremely pure dNTPs and TuneUp™ Solutions are also included. TuneUp™ Solution helps HelixAmp™ *Taq* Polymerase to efficiently amplify the problematic target region of high G+C content or structural problem.

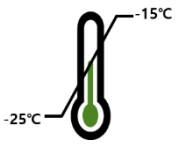
Application

Routine PCR
High yield
TA cloning

Storage buffer

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

Storage



-20±5℃

Shelf life

24 months

Concentration

5unit/μl

NanoHelix Co., Ltd.

A-dong and B-dong, 43-15, Techno 5-ro, Yuseong-Gu, Daejeon, 34014, South Korea. TEL : 82-42-867-9055, FAX : 82-42-867-9057

E-mail : info@nanohelix.net **<www.nanohelix.net www.nanohelix.co.kr/KOR>**

DNase contamination test

Not detectable (Incubation with 40 units of the enzyme and pUC19 plasmid at 37°C, 1hr)

RNase contamination test

Not detectable (Incubation with 40 units of the enzyme and human total RNA at 37°C, 1hr)

DNA contamination test

[*E.coli* DNA] Less than one copy in 5 units of the enzyme

[Human DNA] Not detectable

Functional assay

HelixAmp™ DNA-free *Taq* Polymerase was functionally tested for PCR amplifications to various units of enzyme using the primer sets for different sized products (0.5kb ~ 3.18kb) and to various concentrations of human genomic DNA as a template.

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

NanoHelix Co., Ltd.

A-dong and B-dong, 43-15, Techno 5-ro, Yuseong-Gu, Daejeon, 34014, South Korea. TEL : 82-42-867-9055, FAX : 82-42-867-9057

E-mail : info@nanohelix.net **<www.nanohelix.net www.nanohelix.co.kr/KOR>**

※ Because dNTP Mix (each 10mM) and 5x TuneUp™ Solution are not provided in Products with Cat. No. T250, T500, T2500, and T5000, these components are available separately from NanoHelix (Cat. No. DN10 and TUS10).

※ **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℃, 2 min	x 1
95℃, 20 sec	x 25 ~ 40
Annealing Temp., 40 sec	
72℃, 1 min/kb (Expected size of product)	
72℃, 5 min	x 1

Annealing Temp. = T_m – (4 ~ 6℃)

T_m (Melting Temp.) = [4℃ x (G + C)] + [2℃ x (A + T)]

Products

Cat. No.	Products	Size
T500	HelixAmp™ *Taq* Polymerase	500units
T500N	HelixAmp™ *Taq* Polymerase (with dNTP)	500units
T2500	HelixAmp™ *Taq* Polymerase	2,500units
T2500N	HelixAmp™ *Taq* Polymerase (with dNTP)	2,500units
T5000	HelixAmp™ *Taq* Polymerase	5,000units
T5000N	HelixAmp™ *Taq* Polymerase (with dNTP)	5,000units

NanoHelix Co., Ltd.

A-dong and B-dong, 43-15, Techno 5-ro, Yuseong-Gu, Daejeon, 34014, South Korea. TEL : 82-42-867-9055, FAX : 82-42-867-9057

E-mail : info@nanohelix.net **<www.nanohelix.net www.nanohelix.co.kr/KOR>**