

## HelixAmp™ DNA-free *Taq* Polymerase

### Kit Contents

HelixAmp™ DNA-free <i>Taq</i> Polymerase			
Cat. No.	DFT250 / DFT250N (250units)	DFT500 / DFT500N (500units)	DFT2500N (2,500units)
DNA-free <i>Taq</i> (5unit/μl)	0.05ml	0.1ml	0.1ml x 5ea
10x DF <i>Taq</i> Buffer	1ml	1ml x 2ea	1ml x 10ea
dNTP Mix (each 10mM)	None / 0.2ml	None / 0.4ml	0.4ml x 5ea
5x TuneUp™ Solution	None / 0.5ml	None / 0.5ml x 2ea	0.5ml x 10ea
6x Loading Dye	1ml	1ml x 2ea	1ml x 10ea
Instruction for Use	1ea	1ea	1ea

### Description

**HelixAmp™ DNA-free *Taq* Polymerase** is a recombinant enzyme expressed and purified from a bacterial host cell harboring *Thermus aquaticus* DNA polymerase gene and purified using a process that minimizes level of contaminating host DNA. HelixAmp™ DNA-free *Taq* Polymerase is a high quality DNA polymerase and suitable for molecular diagnostics. Because the contaminating host genomic DNA can cause the false positive results, the use of DNA-free *Taq* polymerase is very important in PCR detection of bacteria with universal primers(e.g. 16s rRNA specific primers).

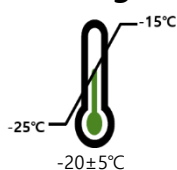
### Application

High yield  
 Routine PCR, TA cloning  
 PCR for Molecular Diagnostics

### Storage buffer

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

### Storage



### Shelf life



### 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](http://www.nanohelix.net) [www.nanohelix.co.kr/KOR](http://www.nanohelix.co.kr/KOR)>

## Quality Control Assay

### 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 arisen 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 DF <i>Taq</i> Buffer	5μl
dNTP Mix (each 10mM)	1μl
Forward Primer (10pmoles/μl)	2μl
Reverse Primer (10pmoles/μl)	2μl
5x TuneUp™ Solution	0 ~ 20μl
DNA-free <i>Taq</i>	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](http://www.nanohelix.net) [www.nanohelix.co.kr/KOR](http://www.nanohelix.co.kr/KOR)>

※ Because **dNTP Mix (each 10mM)** and **5x TuneUp™ Solution** are not provided in Products with Cat. No. DFT250 and DFT500, 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°C, 2 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. =  $T_m - (4 \sim 6^\circ\text{C})$

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

## Product

Cat. No.	Products	Size
<b>DFT250</b>	<b>HelixAmp™ DNA-free <i>Taq</i> Polymerase</b> (with 10x DF <i>Taq</i> Buffer)	250units
<b>DFT250N</b>	<b>HelixAmp™ DNA-free <i>Taq</i> Polymerase</b> (with 10x DF <i>Taq</i> Buffer, 5x TuneUp™ Solution, dNTP Mix)	250units
<b>DFT500</b>	<b>HelixAmp™ DNA-free <i>Taq</i> Polymerase</b> (with 10x DF <i>Taq</i> Buffer)	500units
<b>DFT500N</b>	<b>HelixAmp™ DNA-free <i>Taq</i> Polymerase</b> (with 10x DF <i>Taq</i> Buffer, 5x TuneUp™ Solution, dNTP Mix)	500units
<b>DFT2500N</b>	<b>HelixAmp™ DNA-free <i>Taq</i> Polymerase</b> (with 10x DF <i>Taq</i> Buffer, 5x TuneUp™ Solution, dNTP Mix)	2,500units

## 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](mailto:info@nanohelix.net) <[www.nanohelix.net](http://www.nanohelix.net) [www.nanohelix.co.kr/KOR](http://www.nanohelix.co.kr/KOR)>