NANOHELIX
Reliable Partner for DNA Technologies

Ver. 2206-01

HelixAmp™ *Premium-Taq* Polymerase

Kit contents

HelixAmp™ *Premium-Taq* Polymerase			
Cat. No.	**PT250 (250rxns)**	**PT500 (500rxns)**	**PT2500 (2,500rxns)**
Premium-Taq	250µl	500µl	500ul x 5ea
5x Reaction Mix [PT]	1.25ml x 2ea	1.25ml x 4ea	1.25ml x 20ea
N-Solution™	1.25ml	1.25ml x 2ea	1.25ml x 10ea
6x Loading Dye	0.5ml	1ml	1ml x 5ea
Blue Box	-	-	1ea
Instruction for Use	1ea	1ea	1ea

※ **The 5x Reaction Mix [PT] contains buffers, dNTPs, Mg^{2+}, and glycerol in appropriate concentrations.**

Description

HelixAmp™ *Premium-Taq* Polymerase is an anti-*Taq* antibody complex form of Taq polymerase and ideal for automatic hot-start PCR. The inhibitory anti-*Taq* antibody inactivates the polymerase by binding at low temperature and suppresses the polymerization from non-specifically bound primers which occurs during the setting of PCR mix and the temperature going up in the PCR machine. At the high temperature of the initial denaturation step of PCR, the antibody is released by denaturation and the free *Taq* DNA polymerase becomes active. Unlike chemically modified hot-start *Taq* polymerase, this enzyme needs not prolonged (10 to 15 min.) incubation at above 94℃ to be active. "NanoHelix's PMT (Polymerase Modulator on Temperature) technology" is applied in the buffer system, which is effective to reduce primer-dimer formation and non-specific amplification during the PCR. In case of PCR amplification of target DNA with high G+C content or structural problem, such as repeat sequence, N-Solution™ will improves the specificity and productivity of the reactions.

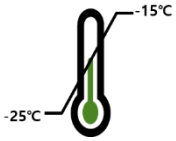
Application

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



-20±5℃

Shelf life

12 months

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>**

Quality Control Assay

Contamination Assay for endo- and exodeoxyribonuclease

HelixAmp™ *Premium-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

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	Reaction Volumes (µl)	
	25	50
Template	X µl	X µl
Forward Primer (10pmoles/µl)	1µl	2µl
Reverse Primer (10pmoles/µl)	1µl	2µl
5x Reaction Mix [PT]	5µl	10µl
N-Solution™[optional]※	0~2.5µl	0~5µl
Premium-Taq	1µl	1µl
RNase-free Water	to 25µl	to 50µl

※ **N-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, **N-Solution™** can be used for the amplification of problematic template, such as high G+C content and repeat sequence regions. The optimal concentrations of **N-Solution™** are vary upon the primer-template sets and should be set by adding into the PCR reaction mixture from 2 to 10% volume. Most of the PCR reactions are not required the **N-Solution™** and we recommend to use the **N-Solution™** only in case of the PCR amplification is not works well or too much non-specific products are observed.

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>**

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
PT250	HelixAmp™ *Premium-Taq* Polymerase	250rxns
PT500	HelixAmp™ *Premium-Taq* Polymerase	500rxns
PT2500	HelixAmp™ *Premium-Taq* Polymerase	2,500rxns

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>**