Ver. 2401-00

HelixAmp™ Hot-Start Fidelity Polymerase

Kit Contents

HelixAmp™ Hot-Start Fidelity Polymerase	
Cat. No.	**HSF250 (250units)**
Hot-Start Fidelity Polymerase (2.5unit/μl)	0.1ml
5x HSF Buffer	1.0ml x 2ea
5x TuneUp™ Solution	1.0ml
Instructions for Use	1ea

Description

HelixAmp™ Hot-Start Fidelity Polymerase is a hot-start formulation of a modified *Pfu* DNA Polymerase, meticulously optimized for robust, high-fidelity, and specific amplification of DNA fragments up to 5kb in length. This high-fidelity enzyme demonstrates a 2.5-fold increase in fidelity compared to conventional *Pfu* DNA polymerase and 100-fold higher than *Taq* DNA polymerase in accuracy. The provided 5x HSF buffer (a reaction buffer) includes all essential PCR components, such as buffering reagents, magnesium, salts, and dNTPs. Additionally, the supplied TuneUp™ Solution is for the challenging amplifications of templates with high G+C content or structural complexities, such as repeat sequences.

Application

Gene cloning with blunt ends

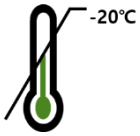
High Fidelity/Specific PCR

NGS template generation

Storage buffer

50mM Tris-HCl (pH 8.0), 100mM KCl,
0.1mM EDTA, 1mM DTT, stabilizers,
50% Glycerol

Storage



Store below -20℃

Shelf life

12 months

Concentration

2.5 unit/μl

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Quality Control

Each lot of **HelixAmp™ Hot-Start Fidelity Polymerase** was tested against predetermined specifications to ensure consistent product quality.

Protocol

1. Recommended amount of template DNA

Human genomic DNA : 10 ~ 500ng / *E.coli* genomic DNA : 100 ~ 200ng

Purified plasmid DNA : 10pg ~ 10ng / cDNA : 25 ~ 750ng

2. Mix following components in a PCR tube

Components	Volumes (µl)
Template	X µl
5x HSF Buffer	10 µl
Forward Primer (10uM)	1 ~ 2 µl
Reverse Primer (10uM)	1 ~ 2 µl
5x TuneUp™ Solution [optional] [1)]	0 ~ 20 µl
Hot-Start Fidelity Polymerase (2.5unit/ul)	0.5 µl
RNase-free Water	to 50 µl

[1)] The application of TuneUp™ Solution is beneficial for amplifying challenging templates, including those with high G+C content and repeat sequence regions. To integrate TuneUp™ Solution into the PCR reaction mixture, it is added at a final concentration ranging from 0.5x to 2x.

3. PCR condition

Temperature & time	Cycles
95℃, 5 min	x 1
95℃, 20 sec	x 25 ~ 40
Annealing Temp., 30 sec	
72℃, 1min/kb (Expected size of product)	
72℃, 3 min	x 1

Products

Cat. No.	Products	Size
HSF250	HelixAmp™ Hot-Start Fidelity Polymerase	250units

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