Yeastern Biotech Co., Ltd

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HiFi DNA Polymerase

Cat. No.
FYT003-500U
FYT033-500U

HiFi DNA Polymerase

Concentration: 5 U/μl **Storage:** - 20 °C

Description

HiFi DNA Polymerase is ideal for sensitive and economical amplification of DNA fragments, especially for high-fidelity PCR. High fidelity is achieved by an optimal blend of high performance YEAtaq DNA polymerase and a *Pyrococcus* proofreading (3'→5' exonuclease activity) enzyme. This formulation achieves greater yields with higher fidelity than standard DNA polymerase such as Taq. Because of the presence of Accu DNA polymerase in the blend, dUTP, dITP and primers containing these nucleotides should not be used in PCR because they hinder DNA synthesis.

Cat. No.	FYT003-500U	FYT033-500U
HiFi DNA Polymerase (5 U/μl)	100 μl	100 μl
10× Reaction Buffer (with 20 mM Mg^{2+})	2 ml	2 ml
10 mM dNTPs Mix	200 μl	--

Storage Buffer:

50 mM Tris-HCl (pH 9.0), 100 mM NaCl, 0.1 mM EDTA, 1% Triton X-100, 5 mM DTT, 50% glycerol, stabilizers.

10× Reaction Buffer:

100 mM KCl, 20 mM $MgSO_4$•$7H_2O$, 200 mM Tris-HCl (pH 8.8), 1% Triton X-100, 100 mM $(NH_4)_2SO_4$, 1 mg/ml BSA.

The reaction buffer is supplied as a 10× concentrate and should be diluted before use.

Unit Definition

One unit is defined as the amount of enzyme that will incorporate 10 nmol of dNTPs into acid-insoluble material in 30 minutes at 72 °C.

Quality Control

Nuclease activity is not detected after incubation of 1 μg of lambda/*Hind*III DNA with 5 units of HiFi DNA Polymerase in 50 μl reaction volume in the supplied Reaction Buffer for 18 hr at 37 °C.

Reaction setup and PCR conditions

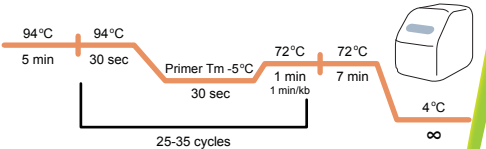
The recommended PCR setup is provided below, but it may not be the optimal condition for your PCR reactions. We recommend users to determine the optimal condition for each component, such as the amount of HiFi DNA polymerase, primers, or DNA template used in PCR reactions as well as the PCR parameters, before an important PCR assay is performed.

A. Add the following components to a sterile PCR tube on ice

Component	Volume	Final conc.
10× Reaction Buffer	5 μl	1×
10 mM dNTPs mix	0.5 μl	0.1 mM
Primer mix (10 μM each)	1 μl	0.2 μM
Template DNA	0.5-10 μl	
HiFi DNA polymerase (5 U/μl)	0.25 μl	1.25 U
ddH_2O	variable	

Total volume 50 μl

B. Suggested cycling parameters for HiFi DNA Polymearse



C. Analyze the amplified products by agarose gel electrophoresis followed by ethidium bromide staining

Error Rate

The error rate of HiFi DNA Polymerase is 8.3×10^{-6} errors per nucleotide per cycle.

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