WizPure™ PCR FDmix (UDG)

(Aliquot & lyophilized in 8-strip PCR tube, preventing carryover-contamination)

- W1602 **96 rxn**
- W1602-5 **480 rxn**

Description

WizPure™ PCR FDmix (UDG) combines all the reagents necessary for successful routine PCR in a convenient individually aliquot and lyophilized in single-tube. WizPure™ PCR FDmix (UDG) is an economical, highly efficient and ready-to-use PCR premix of Taq DNA Polymerase, PCR reaction buffer, $MgCl_2$, dATP, dCTP, dGTP, dUTP, Uracil DNA Glycosylase (UDG), enhancer and stabilizer, except DNA template and primers.

UDG and dUTP are included in the mixture to prevent the reamplification of carryover PCR products between reactions. dUTP in the mix ensures that any amplified DNA will contain uracil. UDG removes uracil residues from single- or double-stranded DNA, preventing dU-containing DNA from serving as template in future PCRs.

WizPure™ PCR FDmix (UDG) yields excellent and consistent results in routine PCR reactions as well as high-throughput PCR genotyping, colony PCR, RT-PCR and PCR cloning. PCR reactions can be directly loaded onto an agarose gel without the additional need of loading buffer and dyes.

Kit Contents

Contents	W1602	W1602-5
WizPure™ PCR FDmix (UDG)	96 tubes	480 tubes

Applications

WizPure™ PCR FDmix (UDG) is suitable and tested for amplification of genomic targets ranging from 100 bp to 4 kb and of episomal targets (lambda phage; plasmids) up to 10 kb under various reaction conditions.

- High through-put PCR
- Routine diagnostic PCR requiring high reproducibility
- DNA sequencing template preparation

Storage Conditions

Upon receipt, store all components at –20°C.

Note

Do not contaminate the WizPure™ PCR FDmix (UDG) with primers and template DNA used in individual reactions.

Quality Control

No endonuclease activity, nicking activity, exonuclease activity, or priming activity has been detected.

Quality Authorized by : Jamie Ahn 

Protocol

This standard protocol applies to a single reaction where only template, primers, and water need to be added to the PCR FDmix. For multiple reactions, scale-up volume of reaction components proportionally. All reagents should be thawed on ice, gently mixed and briefly centrifuged before use.

1. Prepare the reaction mixture as following table.

Reaction Conditions

Component	20 µl reaction	Final Conc.
PCR FDmix (UDG)	1 tube	1X
10µM Forward Primer	0.2 ~ 2.0 µl	0.1~1.0 µM
10µM Reverse Primer	0.2 ~ 2.0 µl	0.1~1.0 µM
Template DNA	1 ~ 5 µl	< 250 ng
Water, RNase-Free	up to 20 µl	

NOTE: In general, use greater than 0.5 µM primers for sensitivity and less than 0.5 µM for specificity.

NOTE: Recommended amount of template per PCR reaction:

- < 50 ng plasmid or
- < 500~1000 ng genomic DNA or
- 2 µl of a 100 µl single plaque eluate or
- one single bacterial colony

2. Ensure reactions are mixed thoroughly by pipetting or gentle vortexing followed by a brief spin in a microcentrifuge.
   (Optional) Overlay reactions with one-half volume PCR-grade mineral oil when not using heated lid on thermal cycler.
3. Transfer tubes into a PCR instrument and run as following table.

PCR Conditions

Step	Temp (°C)	Time	Cycle
UDG Treatment	50	2 min.	1
Initial Denaturation	95	5 min.	1
Denature	95	10 ~ 60 sec.	25 ~ 40
Anneal	50~65	10 ~ 60 sec.	
Extend	72	60 sec./kb	
Final Extension	72	5 min.	1

NOTE: Cycling conditions may need to be optimized, depending on different primer and template combinations. For example, raise the annealing temperature to prevent non-specific primer binding, increase extension time to generate longer PCR products.

4. After cycling, maintain the reactions at 4°C or store at -20°C until ready for analysis.

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