

## DESCRIPTION

CrystalMix™ HS-PCR (UDG) kit combines all the reagents necessary for successful routine hot-start PCR in a convenient individually aliquot in a 0.2ml 8-strip PCR tube. CrystalMix™ HS-PCR (UDG) kit is an economical, highly efficient, ready-to-use and room temperature stable format. There is no need for freezing, thawing steps or pipetting on ice, so minimized the risk of human errors and contaminations.

CrystalMix™ HS-PCR (UDG) kit contains antibody mediated hot-start Taq DNA Polymerase, PCR buffer, MgCl<sub>2</sub> and dATP, dCTP, dGTP, dUTP, and Uracil DNA Glycosylase (UDG). 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 a template in future PCRs. CrystalMix™ HS-PCR (UDG) kit contained blue loading dye, therefore the PCR product can be directly loaded onto an agarose gel without the additional need of loading buffer and dyes. CrystalMix™ HS-PCR (UDG) kit without gel loading dyes is also available for applications when loading dyes are undesired.

## APPLICATIONS

CrystalMix™ HS-PCR (UDG) kit 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
- Point-of-care Molecular diagnostics

## STORAGE CONDITIONS

- Store at below 25°C in the airtight pouch with the desiccant.
- Once opened, completely reseal the pouch with zipper.
- In high humidity environments, store unopened and resealed pouches in a desiccator to maximize product lifetime.
- Do not use once the cone-shape mix shrinks as dot-form. It damaged by re-hydration.

## NOTE

Do not contaminate the CrystalMix™ HS-PCR (UDG) kit with primers and template DNA used in individual reactions.

## QUALITY CONTROL ANALYSIS:

In accordance with Wizbiosolutions Inc. ISO 13485-certified Quality Management System, each lot CrystalMix™ HS-PCR (UDG) kit is tested against predetermined specifications to ensure consistent product quality.

## PROTOCOL

Please read through the entire protocol before starting.

Use the required number of tubes and immediately put the remaining tubes in the pouch and seal with the zipper.

1. Prepare the reaction mixture as the following table.

Component	20 µl reaction	Final Conc.
CrystalMix™ HS-PCR (UDG) Tube	1 tube	1X
10µM Forward Primer	0.25~2.5 µl	0.1~1.0 µM
10µM Reverse Primer	0.25~2.5 µl	0.1~1.0 µM
Template DNA	Variable	
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 a heated lid on the thermal cycler.

3. Transfer tubes into a PCR instrument and run as the following table.

Step	Temp (°C)	Time	Cycle
UDG Treatment	50	2 min.	1
Initial Denaturation	95	5 min.	1
Denature	95	10 ~ 60 sec.	30 ~ 45
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.

## ORDERING INFORMATION

Product	Cat No.	Package
CrystalMix™ HS-PCR (UDG)	W8112	96 rxn

## Technical Support



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