Multiplex PCR Master Mix with UDG, 2X

The Multiplex PCR Master Mix with UDG is a pollution-proof multiplex PCR premix containing all components (except primers and templates) required for multiplex PCR reactions. DUTP /UDG anti-pollution system is introduced in the Mix, and UDG enzyme can rapidly degrade the pollutants containing U at room temperature. Hotstart Taq DNA Polymerase's superior performance in combination with an optimized buffer system increases the specificity of the reaction.

Cat. No.	Contents	Storage Conditions
PM2001	Multiplex PCR Master Mix with UDG, 2X, 40 reactions	Store unopened at −15°C to −25°C until the expiration date on the label. After opening, the master mix may be stored at −15°C to −25°C until the expiration date on the label, or at 4°C for up to 30 days. The GC Enhancer must be kept at −15°C to −25°C.
	• Multiplex PCR Master Mix with UDG, 2X (1 × 1 mL)	
	• GC Enhancer (1 × 0.25 mL)	
PM2002	Multiplex PCR Master Mix with UDG, 2X, 400 reactions	
	• Multiplex PCR Master Mix with UDG, 2X (10 × 1 mL)	
	• GC Enhancer (2 × 1 mL)	
PM2003	Multiplex PCR Master Mix with UDG, 2X, 2000 reactions	
	• Multiplex PCR Master Mix with UDG, 2X (5 × 10 mL)	
	• GC Enhancer (1 × 10 mL)	

Protocol

Note: Before setting up the PCR reactions, prepare a Primer Mix II with 0.5 μM of each primer.

Prepare the PCR Reaction Mix

1. Allow all reagents to thaw completely. Mix gently by inverting the tube. Spin briefly. Put all reagents on ice.
2. Using a 96-well optical reaction plate, add the following to one well per sample:

Component	Volume or Mass	Final Concentration
Multiplex PCR Master Mix with UDG, 2X	25 μL	1X
Primer Mix II(0.5 μM each)	5 μL	50 nM each primer[1]
Template DNA	0.1–0.2 μg	2–4 ng/μL
GC Enhancer	0 or 6 μL [2]	0 or 12%
Nuclease-free water	Adjust to 50 μL	n/a

[1] The final concentration of each primer in a typical PCR is between 0.05-0.4 μM. In most cases, a final concentration of 0.15 μM gives satisfactory results. Increasing the primer concentration up to 0.4 μM may increase the yield.

[2] Use GC Enhancer only when high GC content targets cannot be amplified under standard conditions.

3. Seal the reaction plate with Clear Adhesive Film.

Amplify DNA for Analysis

Choose an amplification protocol based on your analysis method

Amplify for analysis by agarose gel electrophoresis

1. Configure the run method as outlined in your instrument's user manual. Use the following parameters:

Step	Time	Temperature (°C)
Hold	3 min	95
35 Cycles	30 sec	95
	90 sec	58
	90 sec	72
Hold	5 min	72
Hold	∞	4

2. Mix well and briefly spin the reaction plate.
3. Load the reaction plate into the instrument, and start the run. See your instrument's user manual for detailed instructions on how to load and run the plate.
4. Analyze the data according to the instructions in the user manual for your gel electrophoresis instrument.

Amplify for CfDNA Sequencing

Component	Volume
Multiplex PCR Master Mix with UDG, 2X	12.5 µL
Primer Mix II	2 µL
cfDNA	X µL
Nuclease-free water	To 25 µL

1. Configure the run method as outlined in your instrument's user manual. Use the following parameters:

Step	Time	Temperature (°C)
Hold	3 min	95
25-35 Cycles	30 sec	95
	90 sec	58
	90 sec	72
Hold	5 min	60
Hold	∞	4

2. Mix well and briefly spin the reaction plate.
3. Load the reaction plate into the instrument, and start the run. See your instrument's user manual for detailed instructions on how to load and run the plate.

Technical Resources and Support

For the latest technical resources and support information for all locations, please refer to our website at www.gdsbio.com