PerfectStart® CHIPS dPCR SuperMix UDG

Please read the manual carefully before use

Cat. No. AQ715

Version No. Version 1.0

Storage: at -18°C or below for two years

Description

PerfectStart® CHIPS dPCR SuperMix UDG is supplied as a 2× pre-mix reagent specifically designed for chip-based digital PCR, enabling amplification and absolute quantification of DNA samples. Simply add primers, probe, and template, then mix well to perform the reaction. The procedure is easy to operate. It provides high amplification efficiency and strong inhibitor tolerance, making it well suited for tumor and pathogen detection. The dUTP/UDG in the SuperMix can function at room temperature to eliminate carry-over contamination caused by PCR products and ensure the accuracy of results.

Applications

Suitable for chip-based digital PCR systems

Features

• Hot start Taq DNA polymerase blocking by antibodies, enabling high specificity, high sensitivity, high amplification efficiency, and a wide range of applicable species.

• Specially optimized qPCR reaction buffer designed specifically for chip-based digital PCR systems.

• The dUTP/UDG anti-contamination system is used to effectively prevent carry-over contamination of PCR products, ensuring the accuracy of results.

Kit Contents

Component	AQ715-01
2×*PerfectStart*® CHIPS dPCR SuperMix UDG	5×1 ml
Nuclease-free Water	5 ml

Recommended PCR System and Conditions (taking 20 μl reaction system as an example)

Component	Volume	Final Concentration
Template	4 μl	as required
Forward Primer（10 μM）	0.4 μl	0.2 μM
Reverse Primer（10 μM）	0.4 μl	0.2 μM
TaqMan Probe（10 μM）	0.4 μl	0.2 μM
2×*PerfectStart*® CHIPS dPCR SuperMix UDG	10 μl	1×
Nuclease-free Water	4.8 μl	-
Total Volume		20 μl

* Note: Be sure to thaw thoroughly and mix well before use, avoid excessive bubbles caused by vigorously vortexing, and the amount of each component in the reaction system can be adjusted according to the following principles:

• Primer concentration: If the system contains multiple pairs of primers, usually the final concentration of each primer is 0.2 μM, which can obtain a better amplification effect, and the primer concentration can also be adjusted within 0.1~0.5 μM according to the reaction results.

• Probe concentration: If the system contains multiple probes with different fluorescence signals, the final concentration of each probe is usually 0.2 μM, which can be adjusted within 50~250 nM.

• Template dilution: qPCR reaction sensitivity is extremely high, and the accuracy of template addition has a great impact on the final quantitative results, so it is recommended to dilute the template for use; the amount of template added can be adjusted as needed, if the template is a cDNA stock solution, the template volume should not exceed 1/10 of the total volume.

Reaction Program (Two-Step)

1) Standard Procedure

Step	Temperature	Time	Cycle
Pre-denaturation	95℃	5 min	1
Denaturation	95℃	5 sec	40~45 cycles
Annealing/Extension	60℃	30 sec	

Note: This kit contains only the amplification reagents (Taq DNA polymerase, dNTPs, Mg^{2+}, etc.). It is pre-validated for chip-based digital PCR systems. A compatible chip-based dPCR instrument is required for the full detection workflow.

For research use only, not for clinical diagnosis.

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