ARMS qPCR Mix

For research use only

Components

Component	P4031	P4032
2X ARMS qPCR Mix	1 ml	1 ml × 5
Nuclease-free Water	1 ml	1 ml × 5

Storage

Store at -20°C for 2 years.

Description

ARMS qPCR Mix is a 2× qPCR Mix solution developed for the detection of low-frequency variants in tumors, containing highly specific HotStart Taq DNA polymerases, dNTPs, buffers, and other essential components for PCR amplification. The reaction system of the ARMS qPCR Mix has been specially optimized to reduce the formation of mismatched primer amplification products, significantly improve the specificity of PCR amplification, and effectively detect variants as low as 1%. The system contains stabilizers, and repeated freeze-thaw does not affect the amplification performance.

The reaction system of this product can be prepared at room temperature without an ice box. The prepared PCR reaction system can be placed at room temperature for 24 hours and the amplification efficiency remains unchanged.

Applications

• ARMS qPCR

Features

• Convenient: only primers, probes and template DNA are added when preparing qPCR
• High specificity: hotstart Taq DNA Polymerase
• High stability: the performance is not easy to change
• High sensitivity: efficient detection of mutations

Protocol

Add the following reagents to the proper thermal cycler reaction tube or plate:

Component	25-µl rxn	Final Conc.
2X ARMS qPCR Mix	12.5 µl	1X
Forward Primer (10µM) [1]	1 µl	0.4µM
Reverse Primer (10µM) [1]	1 µl	0.4µM
Probe (10 µM) [2]	0.5 µl	0.2µM
Template DNA	x µl	>5ng
Water, nuclease-free	to 25 µl	–

Note:

[1] The primer concentration can be further optimized. The optimal range for primers is 0.2~1µM.

[2] The concentration of the probe used is related to the Real Time PCR amplification instrument, probe species and types of fluorescent label. Please refer to the instructions when using it. Typically, the final concentration is between 0.1 and 0.5 µM.

2. Setup the plate

Transfer the reaction mixture to PCR tubes/plates. Reaction volumes can be reduced to 10 µl if the instrument supports a low volume system.

Cap or seal the reaction tubes/plates then centrifuge briefly to spin down the contents and eliminate any air bubbles.

3. Perform qPCR using the following thermal cycling condition

Set the thermal cycling conditions using default PCR thermal cycling conditions specified in the following tables according to the instrument cycling parameters and melting temperatures of the specific primers.

Initial Denaturation	94°C	2 min	Holding Stage
Denaturation	94°C	15 sec	Cycling Stage 40 Cycles
Annealing	50°C [1]	15 sec	
Extension	72°C	15 sec	

Note:

[1] This product requires a low annealing temperature, and the amplification efficiency of some primers will be extremely low at high annealing temperatures.

4. Analyze the results

Data analysis varies depending on the instrument used. Please refer to your instrument user guide for information.

Quality Control

The absence of endodeoxyribonucleases, exodeoxyribonucl- eases and ribonucleases is confirmed by appropriate quality tests. Functionally tested in amplification of a single-copy gene from human genomic DNA.

Product Use Limitations

This product is sold exclusively for research purposes and in vitro use. Neither the product, nor any individual components, was tested for use in diagnostic applications or for drug development, nor is it suitable for administration to humans or animals. Please refer to the MSDS, available upon request.