14 AGU 2024

AmpHS 2X PCR SuperMix (60 sec/kb; ≤6kb)

Catalog Number	Size	Concentration
MB203-P040	1 ml x 1 vial	2X

Storage Conditions

Stable for up to 2 years at -20°C

Description

This product is a ready-to-use, 2x concentrated PCR solution that contains optimized concentrations of AmpHSTaq DNA Polymerase, dNTPs, Mg^{2+}, reaction buffer, and stabilizers. It is designed specifically for hot-start PCR reactions. The AmpHS Taq DNA Polymerase remains inactive at temperatures below 75°C, effectively preventing non-specific amplification due to non-specific binding between primers and templates or primer dimers at room temperature. Enzyme activation requires a 10-minute incubation at 95°C. The reaction system can be prepared at room temperature without ice, making it convenient and user-friendly. As a 2× premixed PCR reaction system, users only need to add DNA templates and primers and then dilute the mixture with water to 1× concentration. This product offers several advantages, including quick and simple operation, high sensitivity, strong specificity, and excellent stability. It minimizes human error, saves time in PCR experimental procedures, reduces contamination risks, and is suitable for large-scale gene detection, rapid clone screening, semi-quantitative PCR experiments, and the detection of trace DNA templates. The PCR products amplified using this solution have a protruding "A" base at the 3' end, allowing for direct use in TA cloning. This product is available with red dye, you can proceed directly to electrophoresis after PCR without adding a loading buffer; the red dye also indicates the progress of electrophoresis. It can also be purified for subsequent operations such as enzymatic digestion, ligation, and fluorescence sequencing.

Kit Content(s)

AmpHS 2X PCR SuperMix	1 ml x 1 vial

Required materials but not provided

- A compatible PCR instrument
- Vortex or equivalent
- Microcentrifuge
- Plates and seals for your instruments

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Reaction Setup

1. For each 50 µl reaction, assemble the following in a PCR tube on ice just prior to use:

Component	Volume	Final Conc.
Forward primer, 10 µM	1 µl	0.2 µM
Reverse primer, 10 µM	1 µl	0.2 µM
AmpHS 2X PCR SuperMix	25 µl	
DNA template*	X µl	
PCR Grade Water	add to 50µl	-
Total volume	50 µl	

*DNA template: 10-1000 ng genomic DNA, 1-30 ng plasmid, or 1-2 µl cDNA from RT-PCR.

2. Mix gently. If necessary, centrifuge briefly. Cap tubes and place in thermal cycler.
3. Process in thermal cycler for 25-35 cycles as follows:

Initial Denaturation	10 mins at 95°C	
Denaturation	30 secs at 94°C	25-35 cycles
Annealing	30 secs at 50-65°C	
Extension	60 sec/kb at 72°C	
Final extension	5-10 mins at 72°C	

Note: Optimal conditions for amplification will vary depending on the primers and thermal cycler used. It may be necessary to optimize the system for individual primers, templates, and thermal cyclers.

4. For result detection, take 2 µl of the reaction mixture and perform electrophoresis to observe the results. For products containing dye, you can load the sample directly for electrophoresis.

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