15 MAY 2024

AmpLong 2X PCR SuperMix (15-30 sec/kb; ≤20kb, 1X)

Catalog Number	Size	Concentration
MB204-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 PCR solution that comes pre-mixed with optimized concentrations of Taq DNA polymerase, dNTPs, Mg^{2+}, reaction buffer, stabilizers, and PCR enhancers at a 2x concentration. It offers superior fidelity and amplification efficiency compared to standard PCR methods. Its key advantages include ease of use, high sensitivity, strong specificity, and excellent stability, all of which contribute to reducing potential human errors. The PCR product features a protruding "A" base at the 3' end, facilitating direct cloning into T vectors after purification. Additionally, the solution contains a red dye, allowing for direct gel loading post-PCR without the need for an additional loading buffer. It can also undergo purification for subsequent procedures such as restriction enzyme digestion, ligation, or fluorescent sequencing.

Kit Content(s)

AmpLong 2X PCR SuperMix	1 ml x 1 vial

Required materials but not provided

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

5F., No. 145, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City, Taiwan (R.O.C.)
TEL : +886-2-2462-4956 / FAX : +886-2-2462-8849
www.bio-helix.com

Reaction Setup

1. For each 50 µl reaction, assemble the following in a 0.2 ml PCR tube on ice just prior to use:

Component	Volume	Final Conc.
DNA template*	X µl	
Forward primer, 10 µM **	2 µl	0.4 µM
Reverse primer, 10 µM **	2 µl	0.4 µM
2×PCR SuperMix	25 µl	
PCR Grade Water	add to 50µl	-
Total volume	50 µl	

*DNA template: 50-1000 ng genomic DNA, 1-30 ng plasmid, 0.05-10 ng λDNA or 1-2 µl cDNA from RT-PCR.

**When utilizing this product for amplification, if the primer length exceeds 20 nucleotides, set the annealing temperature to Tm+3°C. For primers shorter than 20 nucleotides, use the lowest Tm value as the annealing temperature. We suggest maintaining a primer final concentration of 0.5 µM, with the flexibility to adjust within the range of 0.2-1.0 µM if needed.

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	3 mins at 95°C*	
Denaturation	15 secs at 95°C**	 25-35 cycles
Annealing	15 secs at 50-65°C	
Extension	30 sec/kb at 72°C	
Final extension	5-10 mins at 72°C	

*The initial denaturation time can be adjusted according to the complexity of the template, and the initial denaturation time can be extended to 5-10 mins if necessary.

**This product has high thermal stability, and the denaturation temperature can be set to 94-98°C.

5F., No. 145, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City, Taiwan (R.O.C.)
TEL : +886-2-2462-4956 / FAX : +886-2-2462-8849
www.bio-helix.com