

2×AMPQX® Ultra-Long PCR Master Mix

Cat. no. LM201008-1

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2×AMPQX® Ultra-Long PCR Master Mix

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Product Information

Product	2× AMPQX® Ultra-Long PCR Master Mix
Catalog No.	LM201008-1
Storage conditions	Dry ice transportation. Store at -20°C with a shelf life of 1 year.

2. Product description

2× AMPQX® Ultra-Long PCR Master Mix contains ligand-modified thermostable Taq DNA Polymerase fused with a 3'-5' exonuclease activity factor, as well as optimized buffer system. It can amplify genome fragments up to 25 kb, cDNA gene sequences up to 14 kb, and λDNA fragments up to 40 kb. The mix includes dNTPs and Mg²⁺ required for amplification, eliminating various losses during the addition process. Additionally, protective agents in the system maintain stable activity even after repeated freeze-thaw cycles. The PCR product has an A-tail at the 3' end, allowing direct connection to T-vectors.

3. Components

Product Name	Product Number	Specifications
2× AMPQX® Ultra-Long PCR Master Mix	LM201008-1-ES03	1 mL
	LM201008-1-ES08	5 × 1 mL
	LM201008-1-ES50	50 × 1 mL

Components No.	Components Name	LM201008-1-ES03	LM201008-1-ES08	LM201008-1-ES50
LM201008-1-A	2×AMPQX® Ultra-Long PCR Master Mix	1 mL	5 × 1 mL	50 × 1 mL
LM201008-1-B	25 mM MgSO ₄	500 µL	1 mL	5 × 1 mL
LM201008-1-C	10 mM dNTPs	100 µL	500 µL	5 × 1 mL

4. Instructions

4.1. Reaction System

Components	Volume (μL)
ddH ₂ O	to 50 μL
2× AMPQX® Ultra-Long PCR Master Mix)	25 μL
Template DNAb)	The appropriate amount
Forward primer (10 μM)	2 μL
Reverse primer (10 μM)	2 μL

[Note]:

a) Reaction Buffer: The buffer contains 2.5 mM Mg²⁺ and optimized dNTPs. Additionally, the kit provides extra MgSO₄ and dNTPs. For fragments larger than 20kb that are difficult to amplify, you can try adding 0.5-2 mM Mg²⁺ and 200-500 μM dNTPs.

b) The recommended amounts of different templates are as follows:

Types of templates	Range of fragment amounts for a 50 μL reaction system
Genomic DNA or E. coli bacterial liquid	10-1000 ng
cDNA	1-5 μL (not exceeding 1/10 of the total PCR reaction volume)
Plasmid or viral DNA	0.5-50 ng

c) For amplifying long fragments, it is recommended to use a two-step method for annealing and extension. The annealing/extension time is set at 30 sec/kb, which can amplify most fragments. For fragments larger than 20 kb, the reaction time can be adjusted accordingly but should not exceed 60 sec/kb.

Cycle step	Temp.	Time	Cycles
Initial denaturation	95 °C	3 min	1
Denaturation	98 °C	10 sec	35
Annealing	68 °C	30 sec/kb	
Final extension	72 °C	10 min	1

5. Notes

a) For your safety and health, please wear a lab coat and disposable gloves during operation.

b) This product is for research use only!