

UltraBio™ Multiplex Amplification Mix

Cat. No.: FP1508887 | Pack size: 24T / 96T | Storage: Store at -20°C, Avoid repeated freezing and thawing

Product Information

Item	Description
Product name	UltraBio™ Multiplex Amplification Mix
Catalog No.	FP1508887
Pack size	24T / 96T
Specifications & Purity	BioReagent, DNase, RNase free, PCR Reagent, Suitable for molecular biology, for DNA and RNA applications, 2.5µL/T
Storage	Store at -20°C, Avoid repeated freezing and thawing
Shipped in	Ice chest + Ice pads
Application	Multiplex PCR, PCR
Stability and storage	Store at -20°C long term (12 months). Avoid freeze/thaw cycle. Upon receipt, it is recommended to aliquot.

Overview

UltraBio™ Multiple Amplification Mix is a universal multiplex amplification reagent that can be used for constructing multiplex amplicon libraries for microbial/genetic mutation detection. It is compatible with ultra-multiplex amplification, with a primer number range of 1 to 1500, amplicon length range of 100 to 1800 bp, GC content range of 13% to 75%, and a minimum template input amount of 1 ng. The reagent undergoes strict background microbe quality control to minimize false positives from non-specific amplification. Rigorous functional validation ensures high stability and reproducibility, making it ideal for NGS-based multiplex targeted amplification in microbial/genetic mutation detection.

Component	24T	96T	Storage
UltraBio™ Multiplex Amplification Mix	60 µL	240 µL	-20°C

Self-Supplied Materials

1. Instruments

PCR thermal cycler, Pipettes, Magnetic stand, Microcentrifuge, Vortex mixer, Agarose gel electrophoresis system, UV gel imaging system, Agilent Bioanalyzer 2100 (or equivalent).

2. Reagents

Agarose, 1× TAE buffer, Nucleic acid dye, DNA marker, Ampure XP beads (or equivalent), Freshly prepared 80% ethanol, Nuclease-free water.

3. Consumables

1.5 mL microcentrifuge tubes, 0.2 mL PCR tubes, DNase/RNase-free pipette tips.

Protocol

I. Multiplex Amplification & Product Verification

Reagent Preparation

Thaw UltraBio™ Multiplex Amplification Mix on ice.

Vortex briefly and centrifuge before use.

Reaction Setup (10 µL Standard Volume)

Component	Volume per Reaction	Final Concentration
UltraBio™ Multiplex Amplification mix	2.5 µL	4×
Primer Mix	1 µL	20nM (2.5~100nM)
Template DNA	X µL	10ng (1~100ng)
Nuclease-free water	Up to 10 µL	/
Total	10 µL	/

Note: Total reaction volume can be scaled to 10–50 µL (adjust mix proportionally).

Primer concentration and annealing temperature (T) should be optimized for each panel.

Mixing & Centrifugation

Vortex gently and centrifuge briefly to collect liquid.

PCR Cycling Program

Temperature	Time	Cycles
95°C	10 min	1
95°C	20 s	5
T-2°C	2 min	
T°C	3 min	
T+2°C	1 min	
72°C	1 min	
95°C	30 s	**25
65-70°C	3 min	
4°C	Hold	1

*T: Annealing temperature depends on primer panel (optimize empirically).

Cycle number: Adjust based on template input (default: 25 cycles).

Product QC: Analyze amplification success via 2% agarose gel electrophoresis or Agilent 2100 Bioanalyzer.

II. Amplicon Purification (Ampure XP Beads)

Bead Equilibration

Warm Ampure XP beads to room temperature; vortex thoroughly.

Bead Binding

Dilute PCR products to 50 µL with nuclease-free water.

Add 60 µL beads (1.2× ratio), vortex, and incubate 5 min at RT.

Wash Steps

Place tubes on a magnetic stand for 3–5 min; discard supernatant.

Wash twice with 200 µL fresh 80% ethanol (30 sec per wash).

Air-dry beads for 2–3 min until matte.

Elution

Resuspend beads in 22 µL nuclease-free water; incubate 2 min at RT.

Transfer 20 µL supernatant to a new PCR tube.

Store purified products at -20°C .

Safety & Precautions

1. Read the current SDS before use and handle the product according to local laboratory safety and EHS procedures.
2. Use nuclease-free plasticware and aerosol-resistant tips. Separate reagent preparation, sample preparation, and amplification areas to minimize contamination.
3. Wear a lab coat, disposable gloves, and appropriate eye protection during operation.
4. For research use only. Do not use for clinical diagnosis, treatment, food, cosmetic, or household applications.

Quality Control

QC Item	Method	Acceptable Range
Appearance and integrity	Visual inspection on receipt	No leakage, abnormal color change, or precipitation that cannot be re-dissolved as directed
Nuclease control	Lot-specific nuclease/background control testing	Meets product specification for molecular biology use
Functional performance	PCR/qPCR amplification with validated templates and controls	Expected amplification efficiency, specificity, and reproducibility for the intended application
Storage condition	Review label and COA before use	Stored at the recommended temperature; avoid repeated freeze-thaw cycles

Troubleshooting

Issue	Possible Causes	Corrective Action
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Issue	Possible Causes	Corrective Action
Weak or no amplification	- Low template amount or degraded template - Inappropriate primer/probe design - Incorrect thermal cycling program	- Verify template quality and input amount - Optimize primer/probe concentration and annealing temperature - Confirm the recommended cycling conditions and instrument settings
Non-specific bands or signals	- Annealing temperature too low - Excessive primer concentration - Contamination or carryover products	- Increase annealing temperature or redesign primers - Optimize primer concentration - Use clean work areas and follow anti-contamination procedures
Poor reproducibility	- Repeated freeze-thaw cycles - Incomplete mixing - Pipetting variability	- Aliquot reagents after receipt - Mix gently and centrifuge briefly before use - Use calibrated pipettes and prepare master mixes on ice

Recommended Applications

Multiplex PCR · PCR.

Contact & Global Offices

Whether you have a technical question, need help with a quotation, or want to inquire about an order, our regional teams are ready to assist. Please contact the office for your region; for general inquiries, the North American office is the corporate primary.

NORTH AMERICAN SALES, SUPPORT & GENERAL INQUIRIES

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Limitations & Disclaimer

- For Research Use Only (RUO). Not for use in human or animal diagnostics, therapeutics, or in vivo applications. Not for food, cosmetic, or household use.
- This product is not a CE-marked in vitro diagnostic device under IVDR (EU) 2017/746 and is not an FDA-cleared device under 21 CFR. Use is restricted to verified businesses, institutions, and qualified professionals for research and development purposes.
- Where any product component is classified as hazardous under CLP (EC) 1272/2008 or OSHA HCS (29 CFR 1910.1200), the product Safety Data Sheet (SDS) takes precedence over this document for handling, storage, and disposal information.
- Performance depends on sample type, sample condition, handling, and operator technique. Users are responsible for validating the product for their specific application.
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