

UltraBio™ Thanos Poly Active PCR Mix

Cat. No.: FP1508890 | Pack size: 100T / 1000T / 10000T | Storage: Protected from light, Store at -20°C, Avoid repeated freezing and thawing

Overview

Thanos Poly Active PCR Mix is a fluorescent quantitative premix containing hot-start antibody enzymes. It not only supports full premixing with primers and probes but also exhibits strong adaptability for multiplex DNA assays. To reduce tedious experimental operations at the end-user stage, the primer-probe premix can be prepared in advance, and samples can be directly added during detection. This product uses hot-start antibody enzymes combined with an exclusively developed buffer for the full premix system. It greatly enhances the stability of the amplification system and the detection sensitivity of DNA samples. It also shows strong adaptability and versatility in qPCR assays such as respiratory tract, diarrhea, HPV, and veterinary pathogen detection.

Key Features

- ☐ Novel combination of independently developed buffer and hot-start antibody enzymes ensures high specificity and sensitivity of reactions.
- ☐ Ready-to-use working premix can be prepared by simply adding primers and probes; samples are added directly during detection.
- ☐ Integrated dUTP/UDG anti-contamination system effectively prevents aerosol contamination.
- ☐ Compatible with rapid amplification and multiplex target amplification.

Kit Contents & Storage

Catalog	Component	100T	1000T	10000T	Storage
FP1508890	Poly Active PCR Mix	UltraBio™ Thanos	1.6 mL	10×1.6 mL	-20°C

Storage: Protected from light, Store at -20°C, Avoid repeated freezing and thawing

Materials Required But Not Supplied

Item	Recommended Specification	Purpose
PCR/qPCR instrument or thermal cycler	Compatible with selected reaction volume	Amplification and fluorescence detection

Item	Recommended Specification	Purpose
RNase/DNase-free pipettes, filter tips, and tubes	Molecular biology grade	Reaction setup and contamination control
Primers/probes and template nucleic acid	User-designed and validated	Target amplification

Specifications

Attribute	Value
Specifications & Purity	16μL/T
Product Name	UltraBio™ Thanos Poly Active PCR Mix
Grade	BioReagent, DNase, RNase free, for DNA and RNA applications, PCR Reagent, Suitable for molecular biology
Specifications & Purity	BioReagent, DNase, RNase free, PCR Reagent, Suitable for molecular biology, for DNA and RNA applications, 16μL/T
Molecule Type	Bioreagents/Buffer
Concentration	16μL/T
Storage	Protected from light, Store at -20°C, Avoid repeated freezing and thawing
Shipped In	Ice chest + Ice pads
Stability And Storage	Store at -20°C long term (12 months). Avoid freeze/thaw cycle. Upon receipt, it is recommended to aliquot. Store in the dark.

Protocol

Reaction System Preparation

1. Dissolve and mix all solutions required for the PCR reaction thoroughly. After brief centrifugation, place at room temperature for later use. Probes should be protected from light. It is recommended to aliquot PCR solutions for use to avoid repeated freeze-thaw cycles.
2. Prepare the PCR reaction system according to the following table:

Component	Volume per 25 μ L Reaction	Volume per 50 μ L Reaction	Final Concentration
Thanos Poly Active PCR Mix	16 μ L	32 μ L	1×
Primer/Probe Mix	1 μ L	2 μ L	/
Template DNA	5 μ L	10 μ L	/
ddH ₂ O	To 25 μ L	To 50 μ L	/
Total Volume	25 μ L	50 μ L	/

Note 1: The amounts of primers and template can be adjusted as needed.

Note 2: When using a rapid reaction program, it is recommended to set the total volume of the reaction system to 25 μ L.

3. Gently mix by pipetting up and down or slight vortexing. Centrifuge at room temperature for a few seconds to collect the liquid at the bottom of the tube.

4. Place each PCR reaction tube on the pre-set PCR instrument and start the PCR reaction.

Step	Temperature	Time	Cycles
Pre-denaturation	95°C	1min 30s	1
Denaturation	95°C	5s	40
Annealing/Extension	55°C	30s (Acquire fluorescence)	40

Note: The reaction conditions can be adjusted according to actual circumstances.

Safety & Precautions

1. Use dedicated, RNase/DNase-free pipettes, filter tips, and tubes. Maintain physical separation between pre-PCR and post-PCR work areas to prevent amplicon carryover contamination.
2. Wear gloves at all times and change them between sample preparation, master mix preparation, and template addition.
3. Keep enzymes or master mixes on ice or in a cold block during use. Avoid repeated freeze-thaw cycles.

Quality Control

QC Item	Method	Acceptable Range
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QC Item	Method	Acceptable Range
Component appearance	Visual inspection on receipt	No leakage, precipitation beyond reversible cold storage effects, or abnormal color
Amplification performance	Positive control reaction	Amplification curve or endpoint band meets lot-specific COA/specification
Nuclease control	DNase/RNase-related quality check as applicable	Meets DNase/RNase-free grade claims on product label/COA

Troubleshooting

Issue	Possible Causes	Corrective Action
No or weak amplification	- Inactive master mix/enzyme - Incorrect primer/probe design or cycling program - Low or degraded template	- Verify storage and avoid freeze-thaw cycles - Run a positive control and confirm cycling parameters - Re-quantify template and optimize primer/probe concentrations
High background or nonspecific signal	- Contamination or primer-dimer formation - Annealing temperature too low - Excess template or primers	- Use separated pre-/post-PCR areas and filter tips - Increase annealing temperature or redesign primers - Optimize template and primer/probe input
Poor reproducibility	- Inadequate mixing - Pipetting variation - Repeated freeze-thaw	- Mix gently and centrifuge briefly - Use calibrated pipettes and replicate wells - Aliquot reagents upon receipt

Recommended Applications

Quantitative or qualitative nucleic acid detection using DNA as the template. Only primers, probes, and supplementary ddH₂O need to be added.

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.

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