

# WizPure™ FAST qPCR Master (PROBE)

• W1706	100 rxn	-
• W1706-8	800 rxn	-
• W1706R	100 rxn	ROX
• W1706R-5	500 rxn	ROX

## Description

WizPure™ FAST qPCR Master (PROBE) is ready-to-use 2X reagent ideal for most quantitative Real-time PCR applications. The master mix is recommended for use with Labeled Fluorescent Probes, e.g. for 5'-Nuclease Assays or Hybridization probes. The FAST qPCR Master (PROBE) is an optimized, ready-to-use PCR mixture of hot-start Taq DNA Polymerase, PCR buffer, Magnesium and dNTPs, except DNA template and primers. The kit includes the components necessary for performing PCR amplification, and have been successfully used to amplify and detect a variety of DNA targets such as genomic DNA, cDNA and plasmid DNA.

## Kit Contents

Contents	W1706	W1706-8	W1706R	W1706R-5
FAST qPCR Master (PROBE)	1 ml	8 X 1 ml	1 ml	5 X 1 ml
ROX Dye (50X)			50 µl	250 µl

## Applications

- Real-time PCR
- Gene expression profiling
- Gene knockdown verification
- Array validation

## Storage Conditions

Upon receipt, store all components at -20°C. Store the Master mix at 4°C after thawing for up to 6 months, depending on the expiration date, without showing any reduction in performance.

## Note

Do not contaminate the WizPure™ FAST qPCR Master (PROBE) mix with primers, probe and template DNA used in individual reactions. Thaw and mix all components thoroughly, spin down shortly and chill on ice.

## Use of the ROX Reference Dye

- ABI 7000, 7300, 7700, 7900HT and 7900HT Fast:
  - Amount per 50 µl reaction: 1.0 µl (0.6-1.0 µl)
  - Final ROX Concentration: 500nM (300-500nM)
  - Dilution Factor: 50X
- ABI 7500, 7500 Fast; Stratagene Mx3000, Mx3005P and Mx4000:
  - Amount per 50 µl reaction: 0.1 µl (0.06-0.1 µl)
  - Final ROX Concentration: 50nM (30-50nM)
  - Dilution Factor: 500X

## Quality Control Analysis

Sensitivity and reproducibility in real-time PCR are tested in parallel reactions containing 10-fold dilutions of nucleic acid template.

Quality Authorized by :  Jamie Ahn

## Recommended Protocol

Prior to the experiment, it is prudent to carefully optimize experiment conditions and to include controls at every stage. See pre-protocol considerations for details.

This standard protocol applies to a single reaction where only template, primers, probe and water need to be added to the FAST qPCR Master (PROBE) mix. For multiple reactions, scale-up volume of reaction components proportionally. All reagents should be thawed on ice, gently mixed and briefly centrifuged before use.

1. Thaw reagents at room temperature. Mix thoroughly and then place on ice immediately after thawing.
2. Assemble reaction tubes on ice whenever possible to avoid premature, nonspecific polymerase activity.
3. The following table shows recommended component volumes:

### Reaction Conditions

Component	20 µl reaction	Final Conc.
FAST qPCR Master (PROBE)	10.0 µl	1X
ROX Dye (50X)* (optional)	0.4 µl (0.04µl)	1X (0.1X)
10µM Forward Primer	0.2~2.0 µl	0.1~1.0 µM
10µM Reverse Primer	0.2~2.0 µl	0.1~1.0 µM
Fluorescence Probe	Variable	≤ 500 ng/reaction
Template **	Variable	NA
Water, RNase-Free	up to 20 µl	

\* Please note "Use of the ROX Reference Dye"

\*\* Recommended amount of template per PCR reaction:

- < 50 ng plasmid or,
- < 500 ~ 1,000 ng genomic DNA or,
- 2µl of a 100µl single plaque eluate or,
- one single bacterial colony or,
- 100 ng ~ 1 pg of cDNA

NOTE: In general, use greater than 0.5 µM primers for sensitivity and less than 0.5 µM for specificity.

4. Ensure reactions are mixed thoroughly by pipetting or gentle vortexing followed by a brief spin in a microcentrifuge.
5. Transfer tubes on ice into a thermal cycler pre-warmed. The following table shows recommended cycling conditions:

### PCR Conditions

Step	Temp (°C)	Time	Cycle
Initial Denaturation	95	*20 sec. ~ 5 min.	1
Denature	95	1 ~ 10 sec.	35 ~ 40
Anneal	55~65	20 ~ 50 sec.	

\* 20 sec~2min for cDNA, 5min for genomic DNA

NOTE: Cycling conditions may need to be optimized, depending on different primer and template combinations. For example, raise the annealing temperature to prevent non-specific primer binding, increase extension time to generate longer PCR products.

**RUO** Research Use Only

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