



Cat. No.: FTAQ-101



Fast *Taq* DNA Polymerase Mastermix (2X)

(ETERBIO-EZ-FTAQ-101)

Lot: _____

Expiry Date: yy / mm / dd

Store at -20°C

DESCRIPTION

Fast *Taq* DNA Polymerase Mastermix (2X) is designed for fast PCR and ready-to-use 2X solution containing Fast *Taq* DNA polymerase, dNTPs, MgCl₂ and reaction buffers at optimal concentrations. Fast *Taq* DNA Polymerase is a second-generation enzyme engineered from *Thermus aquaticus* DNA polymerase, offering higher processivity and speed. Fast *Taq* DNA polymerase has 5'→3' DNA polymerase and 5'→3' exonuclease activities that lacking a 3'→5' exonuclease (proofreading) activity. In addition to faster extension rates, the enzyme provides higher yields and sensitivity than wild-type *Taq* DNA polymerase across a broad range of targets. With a buffer specifically formulated, add primers, template, and water simply to amplify the target sequence. Fast *Taq* DNA Polymerase Mastermix (2X) not only saves valuable time without specialized PCR consumables or thermocyclers, but also reduces number of pipetting and reagent handling errors.

COMPOSITION

0.2 U/μl Fast *Taq* DNA polymerase, reaction buffer, 3 mM MgCl₂, 0.4 mM of each dNTP (dATP, dCTP, dGTP and dTTP).

PRODUCT NOTES

- A. Set up 1 sec extension time for target fragments <1 kb and 15 sec/kb for longer target fragments.
- B. Fast *Taq* DNA Polymerase Mastermix (2X) includes two tracking dyes to allow loading onto agarose gels directly.
- C. The following assays are likely to be unsuitable for fast PCR with the Fast *Taq* DNA Polymerase Mastermix (2X):
 - I. Amplification of long fragments (>1 kb) from low target copy numbers
 - II. Amplification of highly GC-rich fragments (>70%)
 - III. Amplification with primers that are prone to nonspecific annealing
 - IV. Amplification from template samples that contain PCR inhibitors (EDTA-, Citrate-, Heparin-treated blood, etc.)
 - V. Multiplex PCR

**USAGE**

1. Gently vortex and briefly centrifuge Fast *Taq* DNA Polymerase Mastermix (2X) after thawing.
2. Set up each reaction as follows (Keep on ice):

Component	50 μ l reaction	Final Concentration
Mastermix (2X)	25 μ l	1X
Primer A	Variable	0.1–1.0 μ M
Primer B	Variable	0.1–1.0 μ M
Template DNA	Variable	< 1.0 μ g
Nuclease-free water	to 50 μ l	

3. Gently mix the solution a few times and spin down.
4. Perform PCR using the recommended thermal cycling conditions outlined below:
(For maximum yield and specificity, temperatures and cycling times should be optimized for each new template target or primer pair)

Step	Temperature	Time
Initial Denaturation	95°C	3 minutes
30 Cycles	95°C	15-30 seconds
	45-68°C	15-30 seconds
	72°C	1-15 seconds/kb
Final Extension	72°C	1 minute/kb
Hold	4-10°C	

If these conditions are not used to, reaction failure is likely.

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