

2X *Taq* Master Mix



Technical Manual No. TM0228

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I. DESCRIPTION

2X *Taq* Master Mix is a premixed 2X concentrated solution of *Taq* DNA Polymerase (GenScript, Cat. No. E00007), reaction buffer, MgCl₂ and dNTPs. 2X *Taq* Master Mix contains all components for PCR*, except DNA template and primers. The mixture is optimized for consistent and efficient routine PCR amplifications. It can amplify up to 8 kb fragment from lambda DNA. For a 50 µl reaction, simply add 25 µl of 2X *Taq* Master Mix to primers, DNA template and PCR-Qualified H₂O.

II. KEY FEATURES

- *Taq* DNA Polymerase in ready-to-use mix
- Low contamination risk
- Low risk of pipetting errors

III. CONTENTS

- 0.1 U/µl *Taq* DNA Polymerase (GenScript, Cat. No. E00007)
- Reaction buffer
- 3 mM MgCl₂
- 0.4 mM dNTPs

IV. STABILITY

1. Freeze-thaw stability of 2X *Taq* master mix: Following 25 freeze-thaw cycles, no effect on performance is observed.

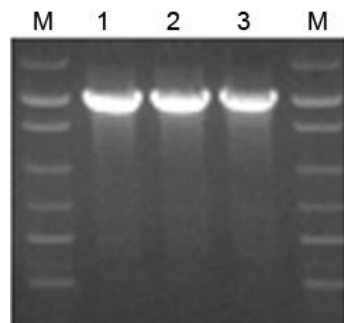


Fig. 1 Stability after 25 freeze-thaw cycles.

2 kb fragment amplification.

Lane 1 25 µl of 2X *Taq* Master Mix

Lane 2 25 µl of 2X *Taq* Master Mix after 25 freeze-thaw cycles

Lane 3 2.5 U *Taq* DNA Polymerase (GenScript, Cat. No. E00007)



2. Stability at 4°C: No effect on performance is observed after storage at 4°C for 2 months.

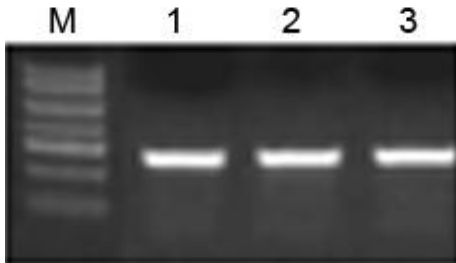


Fig. 2 Stability at 4°C

0.5 kb fragment amplification.

Lane 1 25 µl of 2X Taq Master Mix

Lane 2 25 µl of 2X Taq Master Mix storage at 4°C for 2 months

Lane 3 2.5 U Taq DNA Polymerase (GenScript, Cat. No. E00007)

V. STORAGE

This product is shipped on blue ice. Store the product at -20°C.

VI. GENERAL PCR PROTOCOL USING 2X TAQ MASTER MIX

This is a general PCR amplification protocol, optimization may be needed to get satisfactory results.

1. Thaw the 2X Taq Master Mix at room temperature. Vortex the 2X Taq Master Mix and then spin it briefly in a microcentrifuge to collect the material in the bottom of the tube.
2. Prepare one of the following reaction mixes on ice:

- **For a 25 µl reaction volume:**

Component	Volume	Final Concentration
2X Taq Master Mix	12.5 µl	1X
Upstream Primer, 10 µM	0.5 µl	0.1–1.0 µM
Downstream Primer, 10 µM	0.5 µl	0.1–1.0 µM
DNA Template	1-5 µl	<500 ng
Nuclease-Free Water to	25 µl	

- **For a 50 µl reaction volume:**

Component	Volume	Final Concentration
2X Taq Master Mix	25 µl	1X
Upstream Primer, 10 µM	1 µl	0.1–1.0 µM
Downstream Primer, 10 µM	1 µl	0.1–1.0 µM
DNA Template	1-5 µl	<500 ng
Nuclease-Free Water to	50 µl	

3. Gently mix the reaction and spin down in microcentrifuge.
4. Set up cycling conditions for a routine PCR reactions:
 - Initial Denaturation 94-95°C for 1-5 minutes
 - 25-40 cycles 94-96°C for 30 sec.
 - 45-70°C for 10-30 seconds
 - 72°C for X minutes (1 min/kb)
 - Final extension: 72°C for 7 minutes
 - Final soak 4-10°C



VII. ORDER INFORMATION

2X Taq Master Mix, Cat. No. E00019

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For Research Use Only.

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* The PCR process is covered by US. Patent numbers 4683195 and 4683202 issued to Cetus and owned by Hoffman-La Roche Inc. GenScript does not encourage or support the unauthorized use of the PCR process. Use of this product is recommended for persons that either have a license to perform PCR or are not required to obtain a license.