5X *Taq* Master Mix

Technical Manual No. TM0229 **Version 02082007**

I. DESCRIPTION

GenScript 5×*Taq* Master Mix is a ready-to-use mixture of *Taq* DNA Polymerase, salts, magnesium, and dNTPs for efficient amplification of templates in reactions. All you have to do is to add template and primers, and this will cut your reaction setup time by half. The 5× *Taq* Master Mix comes as one vial, and the vial contains about 1 ml of solution, which is 100 PCR* reactions (10 µl each if use 50 ul system).

II. APPLICATIONS

GenScript 5× *Taq* Master Mix can be used in most PCR applications including the following:

- Colony screening
- PCR from λDNA
- PCR from genomic DNA

III. KEY FEATURES

- Convenient: all reagents of PCR are included in the premix expect template and primers
- Strongly performance: *Taq* DNA Polymerase included, easy to amplify from colony and λDNA, even from human genomic DNA
- Stably, no detectable reduction of PCR performance is observed after storage for two weeks at 37 °C or20 cycles of Freeze-thaw

IV. CONTENTS

- 250 U/ml *Taq* DNA Polymerase and stabilizer
- 50 mM Tris-HCl (pH 9.0), 250 mM KCl, 7.5 mM $MgCl_2$, 1 mM dNTP Mixture, 0.5% Triton X-100

V. SHIPPING AND STORAGE

5×*Taq* Master Mix is shipped on blue ice. Store the product at either 4°C or -20°C.

VI. STABILITY

No detectable reduction of PCR performance is observed after storage at 37°C for two weeks.

VII. GENERAL PCR PROTOCOL USING 5X TAQ MASTER MIX

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

1. Set up 50 µl PCR reaction by adding the following reagents to a thin-walled PCR microcentrifuge tube or plate and mixing gently.
   - **For a 25 µl reaction volume:**

Component	Volume	Final Concentration
5X *Taq* Master Mix	10 µl	1X
Water (PCR grade)	X ul	
Forward Primer, 20 µM	1 µl	400 nM
Reverse Primer, 20 µM	1 µl	400 nM
DNA Template	1 µl	1-100 ng/reaction
Nuclease-Free Water to	50 µl	

*Use the kit for colony screening, you can pick the single clone into the system and PCR. If you need the clone, you can pick it into 200ul medium and mixing, 37°C, 220 rpm, 1~2 h, then use 1~3 ul to PCR. Store the remained bacterium liquid for other use.

2. PCR cycle
   - Initial Denaturation 94-96°C for 2 min
   - 25-30 cycles of Denaturation 94-96°C for 40 sec
   - Annealing 50-60°C for 1 min (primer T_m - 5°C)
   - Extension 72°C for 30 sec to 5 min (2 kb/min)
   - Final extension: 72°C for 5 min

Note:
1. This is a basic protocol. Our products have optimization reagent concentrations, you can use it directly.
2. This protocol is for PCR cycler with a hot lid. Otherwise, mineral oil needs to be added to prevent evaporation.
3. You can use two-steps method to finish your PCR cycler
4. 5% DMSO, 1M betaine, or both can be included in PCR reaction to improve the results when a GC-rich template is used.

VIII. ORDER INFORMATION

5X *Taq* Master Mix, Cat. No. E00020

Telephone: 732-885-9188, 732-357-3839
Fax: 732-210-0262, 732-885-5878
E-mail: info@genscript.com

For Research Use Only.

GenScript Corporation
120 Centennial Ave., Piscataway, NJ 08854
Tel: 732-885-9188, 732-357-3839
Fax: 732-210-0262, 732-885-5878
E-mail: info@genscript.com
Web: http://www.Genscript.com