5X *Taq* Blue Master Mix

Technical Manual No. TM0241 **Version 05292007**

I. DESCRIPTION

GenScript 5X *Taq* Blue Master Mix is a ready-to-use mixture of high quality *Taq* DNA Polymerase, salts, magnesium, loading dye, 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. It allows direct loading of the PCR reaction product onto agarose gels. The 5X *Taq* Blue 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). 5X *Taq* Blue Master Mix may be stored at either 4°C or -20°C. No detectable reduction of PCR performance is observed after storage at 25°C for four weeks.

II. KEY FEATURES

- Convenient, all reagents of PCR are included in the premix expect template and primers.
- Strongly performance PCR 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 four weeks at 25°C or 20 cycles of Freeze-thaw

III. APPLICATIONS

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

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

IV. CONTENTTS

50 mM Tris-HCl (pH 9.0), 250 mM KCl, 7.5 mM $MgCl_2$, 1000 µM dNTP Mix, 0.5% Triton X-100, 0.0125% Bromophenol Blue, 250 U recombinant *Taq* DNA Polymerase/ml and stabilizer.

V. SHIPPING AND STORAGE

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

VI. GENERAL PROTOCOL USING 5X TAQ BLUE MASTER MIX

This is a general PCR amplification protocol, and 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

Reagent	Volume	Final Concentration
5X *Taq* Blue Master Mix	10 ul	1×
Water, PCR grade	X µl	
20 µM Forward primer	1 µl	400 nM
20 µM Reverse primer	1 µl	400 nM
Template DNA	1 µl	1 - 100 ng per reaction
Total	50 µl	

Note: When 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 200 µl medium and mixing, 37°C, 220 rpm, 1-2 h, then use 1-3 µl 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, 1 M betaine, or both can be included in PCR reaction to improve the results when a GC-rich template is used.
5. The products include loading dye, and allow direct loading of the PCR reaction product onto agarose gels.

VII. ORDER INFORMATION

5X *Taq* Blue Master Mix Cat. No.: E00025

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