GENTAUR

**DATA SHEET**

# 2X PCR Taq Plus MasterMix

Store at -20°C

| Cat. No. | Description | Quantity |
|---|---|---|
| G014 | 2X PCR Taq Plus MasterMix | 5 ml |
| G014-dye | 2X PCR Taq Plus MasterMix with dye | 5 ml |

**Product Description**
The 2X PCR Taq Plus MasterMix is a ready-to-use mixture of high quality Taq Plus DNA Polymerase, deoxynucleotides, and 2X reaction buffer. It contains all the necessary reagents for amplification of DNA. The 2X PCR Taq Plus MasterMix with dye contains an inert blue dye and a stabilizer which allow direct loading of the final products onto a gel for analysis.

To set up a PCR reaction: add DNA template, primers and water. PCR products, amplified up to 6 kb in length with Taq Plus DNA Polymerase, contain a mixture of blunt ends and single base (A) 3' overhang. The error rate of this PCR amplification is $7.5x10^{-5}$ per nucleotide per cycle. The products can be used for direct T/A cloning, but its efficiency is not as high as PCR products amplified with Taq polymerase alone.

**Features and Benefits**
- Saves preparation time by combining Taq Plus DNA Polymerse, dNTPs and reaction buffer in a ready-to-use mixture.
- Reduces the risk of contamination by decreasing the number of pipetting steps.
- Provides consistent reaction performance and results.

**Shipping and Storage**
Keep at –20°C for long term storage. 2X PCR Taq Plus MasterMix and 2X PCR Taq Plus MasterMix with dye are stable at 4°C for three months or for fifteen freeze-thaw cycles. For daily use, we recommend keeping an aliquot at 4°C.

**Protocol**
All PCR experiments should be assembled in a nuclease-free environment. In addition, DNA sample preparation, reaction set-up and subsequent reaction(s) should be performed in separate areas to avoid cross contamination. The use of "clean", automatic pipettors designated for PCR and aerosol resistant barrier tips are recommended. Always keep the control DNA and other templates to be amplified isolated from the other components.

A negative control reaction (omitting template DNA) should always be performed in tandem with sample PCR to confirm the absence of DNA contamination.

1. Add the following components to a sterile 0.2 ml PCR tube sitting on ice.

| Components | Volume | Final Concentration |
|---|---|---|
| Template DNA | ~100 ng | ~2 ng/µl |
| Forward primer (10 µM) | 1 - 2.5 µl | 200 - 500 nM |
| Reverse primer (10 µM) | 1 - 2.5 µl | 200 - 500 nM |
| 2X PCR Taq Plus MasterMix/ with dye | 25 µl | 1X |
| Nuclease-free $H_2O$ | up to 50 µl | - |

- *We recommend preparing a mastermix for multiple reactions to minimize reagent loss and enable accurate pipetting.*

2. Mix contents of tube and centrifuge briefly.
3. Incubate tube in a thermal cycler at 94°C for 3 mins to completely denature the template.
4. Perform 30 - 35 cycles of PCR amplification as follows:

   **Denature**: 94°C for 30 sec

   **Anneal**: 45 - 72°C for 30 sec

   **Extend**: 72°C for 1 min/1 kb template

5. Incubate for an additional 5 mins at 72°C and maintain the reaction at 4°C. The samples can be stored at -20°C until use.
6. Analyze the amplification products by agarose gel electrophoresis and visualize by ethidium bromide or SafeView™ (Cat No. G108) staining. If 2X PCR Taq Plus Mastermix with dye is used, load the samples directly without adding additional loading dye. Use appropriate molecular weight standards.

*For laboratory research only. Not for clinical applications.*
*For technical questions, please email us at technical@abmgood.com*
*or visit our website at www.abmGood.com*

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