

EmeraldAmp[®] MAX PCR Master Mix

Code No. RR320A Size: 1 ml x 4
(for 160 PCR reactions)

Supplied Reagent:
dH₂O 1 ml x 4

Description :

EmeraldAmp MAX PCR Master Mix is a 2X premix composed of an optimized buffer, PCR enzyme, dNTP mixture, gel loading dye (green), and a density reagent. The vivid green dye separates into blue and yellow dye fronts when the PCR product is run on an agarose gel. The master mix format greatly simplifies workflows and sample handling; add primers, template, and water and begin PCR. EmeraldAmp MAX PCR Master Mix also allows amplification of long products. It is possible to amplify 15 kb genomic DNA fragments.

Storage :

-20°C for long-term storage. 4°C for short-term storage (up to 3 months). If used frequently, store at 4°C; repeated freezing and thawing will decrease its activity. Gently mix well before use and centrifuge briefly.

Applications :

- Routine PCR (e.g., genotyping)
- Colony PCR
- Plasmid insert verification

Quality Control Data :

Please see the Certificate of Analysis (CoA) for each lot. You can download the CoA on Takara Bio website.

PCR Products :

Most PCR products amplified with this product have one A added at 3'-termini. Thus, the PCR product can be used directly for cloning into a T-vector. Additionally, it is possible to clone the product in blunt-end vectors after blunting and phosphorylation.

Dye Migration during Electrophoresis :

If 5 µl of the PCR sample is used for electrophoresis on a 1% Agarose L03 [TAKARA] (Cat. #5003) gel, the blue dye front migrates near 3 - 5 kb and the yellow dye front migrates below 50 bp. The absorption maxima for the dyes are ~ 260 nm and 420 nm, respectively. The dyes may be removed by excising and purifying DNA from the gel or extracting DNA with NucleoSpin Gel and PCR Clean-up (Cat. #740609.50/.250), if necessary.

General Reaction Composition (50 µl reaction volume) :

| | |
|---|----------------------|
| EmeraldAmp MAX PCR Master Mix (2X Premix) | 25 µl |
| Template | < 500 ng |
| Forward Primer | 0.2 µM (final conc.) |
| Reverse Primer | 0.2 µM (final conc.) |
| dH ₂ O | up to 50 µl |

Recommended PCR Conditions :

3 Step PCR (products up to 6 kb)

| | | |
|--------|----------|-------------|
| 98°C | 10 sec | } 30 cycles |
| 60°C * | 30 sec | |
| 72°C | 1 min/kb | |

2 Step PCR (products over 6 kb)

| | | |
|------|----------|-------------|
| 98°C | 10 sec | } 30 cycles |
| 68°C | 1 min/kb | |

* Primers should have T_m > 60°C for optimal results. The following formula is commonly used for estimating the primer T_m:

$$T_m (^{\circ}\text{C}) = [(\text{the number of A and T}) \times 2] + [(\text{the number of G and C}) \times 4] - 5$$

n : the number of adenine (A), thymidine (T), guanidine (G), or cytosine (C) bases in primer

(Note) Denaturation conditions vary depending on the thermal cycler and tubes used for PCR. We recommend denaturing for 5 - 10 sec at 98°C, or 20 - 30 sec at 94°C.

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Note

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