Maxime PCR PreMix Kit (*i*-MAX™ II)

for 20㎕ rxn

Cat. No. 25265 (96 tubes)

DESCRIPTION

Maxime PCR PreMix Kit (*i*-MAX™ II) 's characteristics are there. Increased fidelity of PCR amplification due to the *i*-MAX™ II DNA Polymerase enzyme blend combines the proofreading activity of *Pfu* DNA Polymerase with the high processivity of *Taq* DNA Polymerase. The second is that increased yield of PCR amplification. Finally, improved performance of long PCR because the reaction buffer and the enzyme blend are optimized for generation of certain length products. So, it can amplify even longer fragments up to 17.5kb from human genomic DNA, and up to 30kb from a DNA template. *Maxime* PCR PreMix (*i*-MAX™ II) is the product what is mixed every component: *i*-MAX™ II DNA Polymerase, dNTP mixture, reaction buffer, and so on- in one tube for 1 rxn PCR. This is the product that can get the best result with the most convenience system. The first reason is that it has every components for PCR, so we can do PCR just add a template DNA, primer set, and D.W.. The second reason is that it has Gel loading buffer to do electrophoresis, so we can do gel loading without any treatment. In addition, each batches are checked by a thorough Q.C., so its reappearance is high. It is suitable for various sample's experience by fast and simple using method.

STORAGE

Store at -20°C; under this condition, it is stable for at least a year.

CHARACTERISTICS

- Increased fidelity of PCR amplification
- Increased yield of PCR amplification
  : Because the accuracy of the enzyme blend reduces the number of truncated amplification products formed.
- Improved performance of long PCR
- Ready to use: only template and primers are needed
- Stable for over 1 year at -20℃
- Time-saving and cost-effective

CONTENTS

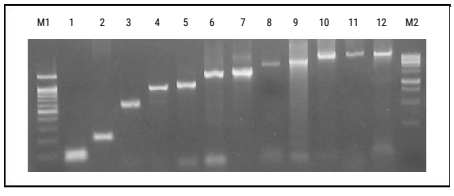
- *Maxime* PCR PreMix (*i*-MAX™ II; for 20 ㎕ rxn) 96 tubes.

Component in 20 ㎕ reaction	
i-MAX™ (II) DNA Polymerase	2.5 U
dNTPs	2.5 mM each
Reaction Buffer	1x
Gel Loading buffer	1x

EXPERIMENTAL INFORMATION

- ***Amplification of various templates 87 bp to 20 Kb.***

[Panel A]



[Panel B]

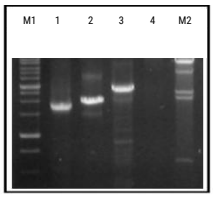


Figure 1. Amplification of various template 97bp to 20Kb with *Maxime* PCR PreMix Kit (*i*-Max™ II)

[Panel A] Using various template
Lane M1, 100bp Ladder DNA Marker; **lane M2,** 1Kb Ladder DNA Marker; **lane 1,** 87bp; **lane 2,**200bp; **lane 3,** 570bp, **lane 4,** 1Kb; **lane 5,** 1.3Kb; **lane 6,** 1.8kb; **lane 7,** 2Kb; **lane 8,** 2.7Kb; **lane 9,** 4.5Kb; **lane 10,** 9Kb; **lane 11,** 17.5Kb; **lane 12,** 20Kb

[Panel B] Using only human gDNA template
Lane M1, 1Kb Ladder DNA Marker; **lane M2,** λ/Hind III Marker; **lane 1,** 1.8Kp; **lane 2,** 2Kb; **lane 3,** 2.7Kb, **lane 4,** 17.5Kb

PROTOCOL

1. **Add template DNA and primers into *Maxime* PCR PreMix tubes (*i*-MAX™ II).**
   Note 1 : Recommended volume of template and primer : 3 ㎕~5 ㎕
2. **Add distilled water into the tubes to a total volume of 20 ㎕. Do not calculate the dried components.**

Example **Total 20㎕ reaction volume**

PCR reaction mixture	Add
Template DNA (l pg ~ 1 ㎍)	1 ~ 2㎕
Primer (F : 5 ~ 10pmol/㎕)	1㎕
Primer (R : 5 ~ 10pmol/㎕)	1㎕
Distilled Water	16 ~ 17㎕
Total reaction volume	**20 ㎕**

Note : This example serves as a guideline for PCR amplification. Optimal reaction conditions such as amount of template DNA and amount of primer, may vary and must be individually determined.

3. Dissolve the blue pellet by pipetting.
   Note : If the mixture lets stand at RT for 1-2min after adding water, the pellet is easily dissolved.
4. (Option) Add mineral oil.
   Note : This step is unnecessary when using a thermal cycler that employs a top heating method(general methods).
5. Perform PCR of samples.
6. Load samples on agarose gel without adding a loading-dye buffer and perform electrophoresis.

CYCLING PARAMETERS FOR SHORT & LONG FRAGMENTS

Cycle program for fragments < 10kb

	Temp.	Time	Cycle No.
Initial Denaturation	92-94℃	2-4min	1
Denaturation Annealing Extension*	94℃ 45-65℃ 72℃	15s-1min 15s-1min 1min/1-1.5kb	25-30
Final extension	72℃ 4℃	5-10min hold	1

*, Extension time for 30s-1min is sufficient for fragments < 1kb.

Cycle program for fragments > 10kb

	Temp.	Time	Cycle No.
Initial Denaturation	92-94℃	2-4min	1
Denaturation Annealing Extension	94℃ 45-65℃ 72℃	15s-1min 15s-1min 1min/1-1.5kb	10
Denaturation Annealing Extension	94℃ 45-65℃ 72℃	15s-1min 15s-1min 1min/1-1.5kb + 20s/cycle	15-20
Final extension	72℃ 4℃	5-10min hold	1

Note : This CYCLING PARAMETERS serves as a guideline for PCR amplification. optimal reaction conditions such as PCR cycles, annealing temperature, extension temperature and incubation times, may vary and must be individually determined.

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