Maxime PCR PreMix Kit (*i*-StarMAX II)

for 20㎕ rxn

Cat. No. 25281 (96 tubes)

DESCRIPTION

iNtRON's *Maxime* PCR PreMix Kit has not only various kinds of PreMix Kit according to experience purpose, but also a 2X Master mix solution. Maxime PCR PreMix Kit (*i*-StarMAX II) is made from iNtRON's *i-Star*MAX™ II DNA Polymerase.

Taq DNA Polymerase is the most common PCR enzyme for amplifying up to 10kb lDNA templates and up to 3kb genomic templates. However, it is not able to amplify even longer DNA fragments. To overcome this constraint, variable PCR systems have been developed by various company, which are containing *Taq* DNA Polymerase and thermostable DNA Polymerase with proofreading activity. *i-StarMAX*™ II DNA Polymerase cannot be useful tool only in amplification of short and long fragments but also problematic template/primer systems with hot-start function. High yields of PCR product can be achieved using extension times as short as from 30 seconds to 1 minute per kb per cycle with the *i-StarMAX*™ II DNA Polymerase. The *i-StarMAX*™ II DNA Polymerase is recommended for relatively rapid, high-fidelity amplification of PCR targets up to 15kb when proofreading DNA polymerase alone requires too long an extension time or yields are insufficient.

Maxime PCR PreMix Kit (*i*-StarMAX II) is the product what is mixed every component. *i*-StarMAX II DNA Polymerase, dNTP mixture, reaction buffer, and so on- in one tube. 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

- High fidelity, specificity (hot-start function), and yields
- 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 : because the reaction buffer and the enzyme blend are optimized for generation of certain length products
- Flexibility : available for various DNA template including cloned fragment, phage DNA, mammalian genomic DNA and etc.
- Ready to use: only template and primers are needed
- Construct as various reaction volume
- Stable for over 1 year at -20℃
- Time-saving and cost-effective

CONTENTS

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

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

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.

PROTOCOL

1. Add template DNA and primers into *Maxime* PCR PreMix tubes (*i*-StatMAX II).
   Note 1 : Recommended volume of template and primer : 3㎕~5㎕
   Appropriate amounts of DNA template samples
   - cDNA : 0.5-10% of first RT reaction volume
   - Plasmid DNA : 10pg-100ng
   - Genomic DNA : 0.1-1ug for single copy

   Note 2 : Appropriate amounts of primers
   - Primer : 5-20pmol/㎕ each (sense and anti-sense)
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	1 ~ 2㎕
Primer (F : 10pmol/㎕)	1㎕
Primer (R : 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.

SUGGESTED CYCLING PARAMETERS

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