Maxime PCR PreMix Kit (*i*-StarTaq)

for 20㎕ / 50㎕ rxn

Cat. No. 25165(for 20㎕ rxn, 96 tubes) **Cat. No. 25167**(for 20㎕ rxn, 480 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. Hot start PCR technique was developed as a method to minimize the deleterious effects of mispriming at lower temperatures during PCR. In a PCR reaction, even short incubations at temperatures below the optimum annealing temperature for a particular set of primers can result in mispriming, elongation and the subsequent formation of spurious bands.

Maxime PCR PreMix Kit (*i*-StarTaq) is the product what is mixed every component : *i*-StarTaq™ 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

- Sensitivity : reduced or no amplification of non-specific products resulting from mispriming during PCR.
- Specificity : generating fragments of high specificity and high yield.
- 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
- Stable for over 1 year at -20℃
- Time-saving and cost-effective

CONTENTS

- *Maxime* PCR PreMix(*i*-StarTaq, for 20㎕ rxn) 96 (480) tubes
- *Maxime* PCR PreMix(*i*-StarTaq, for 50㎕ rxn) 96 tubes

Component in	20 ㎕ reaction	50 ㎕ reaction
i-StarTaq™ DNA Polymerase	2.5U	5U
dNTPs	2.5mM each	2.5mM each
Reaction Buffer(10x)	1x	1x
Gel Loading buffer	1x	1x

PROTOCOL

1. Add template DNA and primers into *Maxime* PCR PreMix tubes(*i*-StarTaq).
   Note 1 : Recommended volume of template and primer : 3㎕~9㎕
   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㎕ or 50㎕.
   Do not calculate the dried components

Example **Total 20㎕ or 50㎕ reaction volume**

PCR reaction mixture	Add	Add
Template DNA	1 ~ 2㎕	2 ~ 4㎕
Primer (F : 10pmol/㎕)	1㎕	2 ~ 2.5㎕
Primer (R : 10pmol/㎕)	1㎕	2 ~ 2.5㎕
Distilled Water	16 ~ 17㎕	44 ~ 41㎕
Total reaction volume	**20 ㎕**	**50 ㎕**

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

PCR cycle		Temp.	PCR product size		
			100-500bp	500-1000bp	1Kb-5Kb
Initial denaturation		94℃	2min	2min	2min
30-40 Cycles	Denaturation	94℃	20sec	20sec	20sec
	Annealing	50-65℃	10sec	10sec	20sec
	Extension	65-72℃	20-30sec	40-50sec	1min/Kb
Final extension		72 ℃	Optional. Normally, 2-5min		

Note : The PCR process is covered by patents issued and applicable in certain countries. iNtRON Biotechnology does not encourage or support the unauthorized or unlicensed use of the PCR process. Use of this product is recommended for persons that either have a license to perform PCR or are not required to obtain a license.

EXPERIMENTAL INFORMATION

- ***Comparison with i-StarTaq™ and Maxime PCR PreMix(i-StarTaq™)***

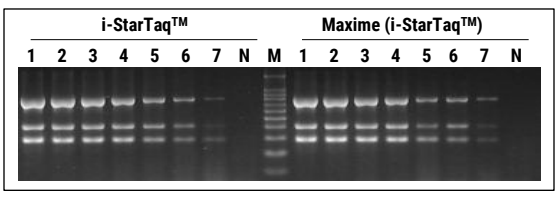

Fig.1. Comparison with *i*-StarTaq™ DNA polymerase and *Maxime* PCR PreMix (*I*-StarTaq™)

Comparison with *i*-StarTaq™ DNA Polymerase and *Maxime* PCR PreMix *(i*-StarTaq) by amplifying fyuA (780bp), tsh (420bp) and Irp2 (280bp) from variable amounts of *E.coli* gDNA.

Lane M, SiZer-100 DNA Marker; **lane 1,** 50 ng gDNA; **lane 2,** 10 ng gDNA; **lane 3,** 2ng gDNA; **lane 4,** 400 pg gDNA; **lane 5,** 80 pg gDNA; **lane N**, Negative control

- ***Comparison with different company Kit***

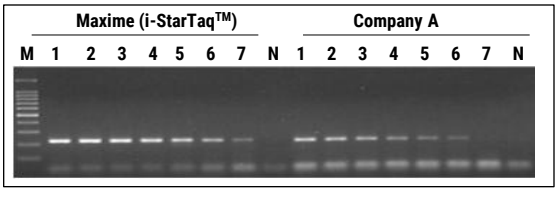

Fig.2. Comparison of *Maxime* PCR PreMix(*i-StarTaq*) and Supplier A's Hot-start PreMix system by amplifying 218 bp DNA fragment.

Total genomic DNA from cultivated human cell (K-562) was used as PCR template from 100 ng to 1.56 ng.

Lane M, SiZer-100 DNA Marker; **lane 1,** 100 ng; **lane 2,** 50 ng; **lane 3,** 25 ng; **lane 4,** 12.5 ng; **lane 5,** 6.25 ng; **lane 6,** 3.125 ng; **lane 7,** 1.56 ng; **lane N,** Negative control