For research purpose only. Not for use in diagnostic procedures for clinical purposes. For IN VITRO USE ONLY.

i-Taq ™ DNA Polymerase

Cat. No.	**25021**	250 units
Cat. No.	**25022**	500 units

DESCRIPTION

PCR (polymerase chain reaction) was developed by *Kary Mullis* in mid 1980's and it has made development of modern molecular biology possible through DNA oligo sequence. The common usage of DNA polymerase in PCR method is *Taq* DNA polymerase. In the beginning, the enzyme used in PCR method was *E. coli* DNA polymerase, but enzyme had to be added at every step of the process due to its thermal instability.

Therefore, DNA polymerase was developed from *Thermus aquaticus* bacteria which thrives in hot spa. *Taq* DNA polymerase optimally compose DNA at 72 ?C, therefore it could stably amplify a specified oligo sequence without adding enzyme at every due to its thermal stability even at 94℃.

Purification process is most important step in making the enzyme: if it's not sufficiently purified, chromosomal DNA of *E.coli* or plasmid DNA cause contamination, and during PCR process, these DNA's are amplified instead of target DNA. Thus, to correct this problem, the iNtRON's *i-Taq*™ DNA Polymerase is developed.

STORAGE

Store at –20℃.

CHARACTERISTICS

- High efficiency of the amplification
- No DNA contamination grade enzyme
- High fidelity of PCR product
- Low price & rapid delivery
- Include dNTP

APPLICATIONS

- Genomic DNA PCR
- RT-PCR
- Direct sequencing related PCR
- T/A vector cloning
- LOH or MSI analysis related PCR

CONTENTS

• *i-Taq*™ DNA Polymerase (5U/㎕)	250 units (500 units)
• 10x PCR buffer (w/ 20mM $MgCl_2$)	1ml
• 10x $MgCl_2$ free PCR buffer	1ml
• 10mM dNTPs (2.5mM each)	500㎕ (1ml)
• 25mM $MgCl_2$	1ml

10? PCR BUFFER

- 100mM Tris-HCl (pH 8.3)
- 500mM KCl
- 20mM $MgCl_2$
- Enhancer solution

GENERAL REACTION MIXTURE for PCR (total 20㎕)

Template	1ng-1㎍
Primer 1	5-10 pmoles
Primer 2	5-10 pmoles
i-Taq™ DNA Polymerase (5U/㎕)	0.2-0.5㎕
10x PCR buffer	2㎕
dNTP Mixture (2.5mM each)	2㎕
Sterilized distilled water	up to 20㎕

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.