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

i-StarTaq™ DNA Polymerase [for Hot-Start PCR]

Cat. No. 25161 250 units
Cat. No. 25162 500 units

DESCRIPTION

The polymerase chain reaction (PCR) is a powerful technique designed to amplify high levels of DNA fragments from target DNA. However, inherent in the amplification power of PCR is the potential for contamination through co-amplification of nonspecific products, especially when the target comprises Abundant nontemplate DNA such as genomic DNA.

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. The Hot Start technique involves inactivating (or leaving out) one critical component of the PCR reaction until the temperature has risen above this optimal annealing temperature.

iNtRON has developed a recombinant *Taq* DNA polymerase which is inactive below an annealing temperature, but can be activated above the annealing temerature. Therefore, iNtRON's *i-StarTaq*™ DNA polymerase provides a solution for problematic template/primer PCR systems.

STORAGE

Store at -20 .

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.

APPLICATIONS

- Amplification of genomic DNA and cDNA targets up to 5kb long with high specificity, sensitivity, and yield.
- PCR with difficult templates e.g. secondary structures or GC-rich sequences.
- Cloning with TA and blunt ends.

KIT CONTENTS

- *i-StarTaq*™ DNA Polymerase (5U/) 250 units (500 units)
- 10x PCR buffer (w/ 20mM Mg^{2+}) 1ml
- 10x Mg^{2+} free buffer 1ml
- 10mM dNTPs (2.5mM each) 500 (1ml)
- 25mM Mg^{2+} 1ml

10x PCR BUFFER

- 300mM Tris-HCl (pH9.0)
- 300mM salts containing of K^+ and NH_4^+
- 20mM Mg^{2+}
- Enhancer solution

GENERAL REACTION MIXTURE for PCR (total 20)

Template	1ng-1
Primer 1	5-10 pmoles
Primer 2	5-10 pmoles
i-StarTaq™ 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.

www.interchim.com
interchim

211 bis Avenue Kennedy - BP 1140
03103 Montluçon - France
33 (0) 4 70 03 88 55
Fax 33 (0) 4 70 03 82 60
e-mail interchim@interchim.com

Agence Paris - Normandie
33 (0) 1 41 32 34 40
Fax 33 (0) 1 47 91 23 90
e-mail interchim.paris@interchim.com