Intact Genomics

Higher Quality, Lower Price, Better Result

Enzymes & Cloning Kits

Cas9 Nuclease • Hot Start Taq DNA Polymerase • Hot Star Taq 2x Master Mix • Taq DNA Polymerase • Taq DNA Polymerase with Dye • Taq DNA Polymerase 2x Premix with Dye • Hot Start Pfu DNA Polymerase • Pfu 2x Master Mix • Pfu DNA Polymerase • igScript™ Reverse Transcriptase • ig™ SYBR Green qPCR 2x Master Mix • T4 DNA Ligase • Taq DNA Ligase • T4 DNA Polymerase • T4 Polynucleotide Kinase (PNK) • Klenow • Pol I • T5 Exonuclease • ig-Fusion™ Cloning Kit

RT-PCR & RT-qPCR Kits

igScript™ One Step RT-qPCR Kit • igScript™ First Strand cDNA Synthesis Kit • igScript™ RT-PCR Kit • igScript™ RT-qPCR Kit

Chemically & Electroporation Competent Cells

ig™ 5α • ig™ 10B • BL21 • BL21(DE3) • Phage Display Cells (TG1, SS320) • BAC Cells (10B, 10B Copy-Up) • Custom Cells

Custom Services

DNA Preparation: High HMW DNA • BAC DNA • High-Throughput DNA **| DNA Library Construction:** Random Shear BAC Library • Partial Digestion BAC Library • Fosmid Library **| Library Screening:** Colony Picking • Colony Duplication • 3D DNA Pools • Gridding & High Density Colony Filters • BAC/Fosmid end Sequencing **| Other Services:** Long DNA Fragment Cloning and Manipulation • BAC Engineering • Custom Vector Construction

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Intact Genomics®

Hot Start *Taq* 2x Master Mix

Catalog #	3295	3296
Package Size	100 reactions	500 reactions
Volume	2 x 1.25 ml	10 x 1.25 ml

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1100 Corporate Square Drive, Suite 257
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Hot Start *Taq* 2x Master Mix

Description

Hot start *Taq* DNA Polymerase 2x master mix is ready to use premix which contains hot start *Taq* DNA Polymerase, dNTPs, $MgCl_2$ and stabilizers with optimized reaction buffer. It has been optimized for routine PCR applications. Hot start *Taq* is a thermostable DNA polymerase that possesses a 5′→3′ polymerase activity (1, 2) and a 5′ flap endonuclease activity (3, 4). Hot Start *Taq* DNA Polymerase is chemically modified that leads to complete inactivation of the polymerase until the initial heat activation step at the start of PCR. Hot start PCR reduces non-specific amplification during setup stages of the reaction and helps increase PCR specificity and sensitivity. This product is supplied with the unique Intact Genomics 5X Magic Enhancer that enables efficient amplification of GC rich templates up to 84%.

Applications

- Routine PCR and RT-PCR
- Primer extension
- Colony PCR
- Genotyping
- Efficient for amplifying high GC content template DNA with Magic Enhancer.

Product Includes

1) Hot start Taq 2x master mix
2) 5X Magic Enhancer

1x Master Mix Composition

10 mM Tris-HCl pH 9.0
50 mM KCl
1.5 mM $MgCl_2$
0.2 mM dNTPs
5% Glycerol
0.08% Igepal CA 630
0.05% Tween-20
100 Units/ml Hot start *Taq* Polymerase.

Storage Temperature

–20 °C

Protocol

1. Prepare a reaction mix according to the following table:

PCR reaction set up:	
Template DNA	1-50 ng
Forward primer (5 µM)	2.5 µl
Reverse primer (5 µM)	2.5 µl
Hot start *Taq* 2x master mix	25.0 µl
5X Magic Enhancer (optional)	10.0 µl
H_2O up to	50.0 µl

2. Mix the reaction mixture thoroughly.
3. Program the thermal cycler according to the manufacturer's instructions.
4. A typical PCR cycling program is outlined in the following table.

PCR cycling conditions:			
Steps	Temperature	Time	Cycles
Initial denaturation	95ºC	15 min	1
Denaturation	95ºC	30 sec	25-40
Annealing	50-66ºC	30 sec	
Extension	72ºC	1 min/kb	
Final extension	72ºC	5-10 min	1

5. Place the PCR tubes in the thermal cycler and start the cycling program.
6. Analyze 5 µl of PCR products by agarose gel electrophoresis.

References:

1. Chien, A., Edgar, D.B. and Trela, J.M. (1976). *J. Bact*. 127, 1550-1557.
2. Lawyer, F.C. et al. (1993). *PCR Methods and Appl.* 2, 275-287.
2. Longley, M.J., Bennett, S.E and Mosbaugh D.W. (1990) *Nucleic Acids Res.*18, 7317-7322.
8. Lyamichev, V., Brow, M.A. and Dahlberg, J.E. (1993). *Science*. 260, 778-783.