

i7[®] Hot Start High-Fidelity DNA Polymerase 2x Master Mix



Catalog #	3284	3286
Package Size	100 reactions	500 reactions

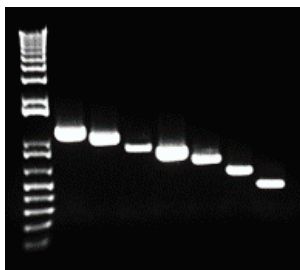
Description

Intact Genomics (ig[®]) i7[®] Hot Start High-Fidelity DNA Polymerase 2x Master Mix is ready to use premix which contains hot start i7[®] high-fidelity DNA polymerase, dNTPs, MgCl₂, PCR enhancers and stabilizers with optimized proprietary reaction buffer. i7[®] Hot start high-fidelity DNA polymerase is a chemically engineered, heat stable DNA polymerase which has 5' → 3' polymerase and 3' → 5' exonuclease (proofreading) activities. This enzyme has high-fidelity, sensitivity and processivity with an error rate ~2.8x10⁻²-fold lower than Taq DNA polymerase, and significantly lower than other proofreading enzymes in the marketplace (1).

Activity Data

We have tested i7[®] Hot Start High-Fidelity 2x Master Mix with difficult templates for PCR amplification. Typical PCR results are shown below:

Hot start PCR with difficult templates



M 1 2 3 4 5 6 7

Applications

- Long and difficult template DNA amplification
- Cloning
- High-fidelity PCR
- Efficient for amplifying high GC content template DNA

Product Includes

- i7[®] Hot Start High-Fidelity DNA Polymerase 2x Master Mix

Storage Buffer

50 mM Tris-HCl, 50 mM KCl, 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, pH 7.5 @ 25°C

Storage Temperature: -20°C

Heat Inactivation: No

Protocol

1. Thaw i7[®] Hot Start High-Fidelity DNA Polymerase 2x Master Mix and primer solutions and mix thoroughly before use.
2. Prepare a reaction mix according to the following table:

(The reaction mix typically contains all the components needed for PCR except the template DNA).

Components	20 µl reaction	50 µl reaction	Final concentration
Template DNA	variable	variable	1-1000 ng
Forward primer (10 µM)	1.0 µl	2.5 µl	0.5 µM
Reverse primer (10 µM)	1.0 µl	2.5 µl	0.5 µM
i7 [®] Hot Start High-Fidelity 2x Master Mix	10.0 µl	25.0 µl	1x
H ₂ O up to	20.0 µl	50.0 µl	

3. Mix the reaction mixture thoroughly.
4. Add template DNA to the individual PCR tube containing the reaction mixture.

5. Program the thermal cycler according to the manufacturer's instructions. A typical PCR cycling program is outlined in the following table:

PCR Cycling Conditions			
Steps	Temp.	Time	Cycles
Initial denaturation	98 °C	10-15 min	1
Denaturation	98 °C	10-20 sec	25-35
Annealing	52-66 °C	10-30 sec	
Extension	68-72 °C	10-30 sec/kb	
Final extension	68-72 °C	5 min	1
Hold	4-12 °C		∞

References

1. Frey, B. and Suppmann, B. (1995). BioChemica. 2, 34-35.

Related Products

- Taq DNA Polymerase 2x Premix (Cat.# 3249)
- ig[®] 10B Electrocompetent Cells (Cat.# 1212-12)
- ig[®] 10B Chemically Competent Cells (Cat.# 1011-12)
- i7[®] Hot Start High-Fidelity DNA Polymerase (Cat.# 3281)
- i7[®] High-Fidelity DNA Polymerase (Cat.# 3254)

Technical Support

Intact Genomics is committed to supporting the worldwide scientific research community by supplying the highest quality reagents. Each new lot of our products is tested to ensure they meet the quality standards and specifications designated for the product.

Please follow the instructions carefully and contact us if additional assistance is needed. We appreciate your business and your feedback regarding the performance of our products in your applications.