i7® High-Fidelity DNA Polymerase 2x Master Mix

Manual

Catalog #	3257	3259
Package Size	100 reactions	500 reactions

Important!

-20°C Storage Required

* Immediately inspect packages
* Freeze upon receipt

visit us online for more products & custom services

Intact Genomics, Inc.

Table of Contents

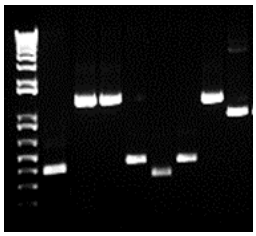
Description:

Intact Genomics (ig®) i7® High-Fidelity DNA Polymerase 2x Master Mix is ready to use premix which contains i7® highfidelity DNA Polymerase, dNTPs, $MgCl_2$, PCR enhancers and stabilizers with optimized proprietary reaction buffer. i7 high-fidelity DNA Polymerase is a genetically 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 ~2.8x102 -fold lower than *Taq* DNA polymerase, and significantly lower than other proofreading enzymes in the marketplace (1). Proprietary buffer allows for amplification of non GC rich templates and of GC rich templates up to 84%.

Activity Data:

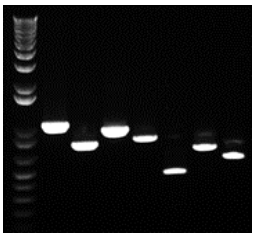
We have tested i7® High-Fidelity 2x Master Mix with difficult templates for PCR amplification. Typical PCR results are shown below:

A). Colony PCR



M 1 2 3 4 5 6 7 8

B). PCR to detect difficult templates



M 1 2 3 4 5 6 7

Applications:

- Long and difficult template DNA amplification
- Cloning
- High-fidelity PCR

Product Components:

- i7® High-Fidelity DNA Polymerase 2x Master Mix

Storage Temperature and Buffer:

- -20ºC
- 50 mM Tris-HCl, 50 mM KCl, 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, pH 7.5 @ 25ºC

Heat Inactivation:

No

Protocol:

1. Thaw i7® high-fidelity 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® high-fidelity 2x Master Mix	10.0 µl	25.0 µl	1x
H_2O 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 ºC	1-2 min	1
Denaturation	98 ºC	10-20 sec	25-35
Annealing	52-66 ºC	10-30 sec	
Extension	68-72 ºC	10-30 sec/kb	
Final extension	68-72 ºC	5 min	1
Hold	4-12 ºC	∞	

6. Place the PCR tubes in the thermal cycler and start the cycling program.

Related Products:

- *Taq* DNA Polymerase 2x Premix (Cat.# 3249)
- ig® 10B Electrocompetent Cells (Cat.# 1212-12)
- ig® 10B Chemically Competent Cells (Cat.# 1011-12)
- ig-Fusion™ Cloning Kit (Cat.# 4111)
- i7® Hot Start High-Fidelity DNA Polymerase (Cat.#3281)
- i7® High-Fidelity DNA Polymerase (Cat.#3254)

Ordering Information:

- Order online within the USA. Place orders on **www.intactgenomics.com** using our secure Shopping Cart.
- Order by email, phone, or fax.
  Email: **sales@intactgenomics.com**
  Phone: (314) 942-3655 **|** Toll-free : 855-835-7172 **|** Fax: (314) 942-3656
- Order via our distributors.

References:

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

Intact Genomics owns the following registered trademarks granted by the United States Patent and Trademark Office (USPTO): Intact Genomics®, IG®, ig®, igTherapeutics®, FastAmp®, i7®, DirectPlate®.

All technology protocols discussed within this manual are assumed proprietary to Intact Genomics. This Product may be covered by pending or issued patents or may have certain limitations. Please contact us for more information. Purchase of this material conveys to buyer the non-transferable right to use the material purchased in research conducted by buyer, whether for teaching, non-commercial or commercial research purposes. Buyer may not sell or otherwise transfer these materials, its components, or unmodified descendants to a third party.

Product Use Limitation and Disclaimers

This product is for research purposes only. It is not intended for therapeutic or diagnostic purposes in humans or animals. This product contains chemicals which may be harmful if misused or direct human contact is made.

Intact Genomics is dedicated to practicing and maintaining science and technology ethics. Buyer agrees to use the purchased materials in full compliance with applicable law and regulations.

Technical Support & Customer Services

Intact Genomics (IG®) is dedicated to customer satisfaction regarding the use of our products for your research needs. Each new lot of our products is thoroughly tested to ensure it meets high quality standards and provides excellent results. We appreciate your business and your feedback regarding the performance of our products in your applications. Please follow the instructions carefully and contact us if additional assistance is needed.

Our hours are Monday - Friday, 8AM to 5PM, U.S. Central Standard Time.

Intact Genomics, Inc.
11840 Westline Industrial Drive, Suite 120,
St. Louis, MO. 63146, USA

Phone: (314) 942-3655 | **Toll-free :** 855-835-7172 | **Fax:** (314) 942-3656
Email: sales@intactgenomics.com | ig@intactgenomics.com
Website: www.intactgenomics.com