5x ig-Fusion™ Cloning Enzyme Premix

Manual

Catalog #	4111-1	4115-1	4117-1
Package Size	10 reactions	50 reactions	100 reactions

Important!

-20°C Storage Required

* Immediately inspect packages
* Freeze upon receipt

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Intact Genomics, Inc.

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Description:

Intact Genomics (ig®) propriety ig-Fusion™ cloning technology is a simple, rapid and highly efficient cloning kit which allows for directly cloning any PCR product(s) to any linearized expression vector at any site. The PCR fragments can be generated by Intact Genomics' high fidelity *Pfu* DNA polymerase or other high fidelity DNA polymerases, with primers having 15 to 18 bases of homology at their linear ends to where the product need to fuse. The linearized vector can be generated by PCR or restriction enzymes. The kit is so robust that multiple DNA fragments can be assembled simultaneously and cloned into one construct in a single reaction step. Cloning takes a short amount of time (usually 10-30 min) with more than 95% cloning efficiency.

Applications:

- Clone any insert at any site within any vector
- Restriction enzyme and phosphatase free system
- Joining multiple large fragments at once
- Precise insertion at a desired orientation
- Rapid and high efficiency with > 95% positive clones

Product Components and Storage:

- 5x ig-Fusion™ Cloning Enzyme Premix
- -20 ºC

Protocol:

1. Linearize the vector by restriction enzyme digestion or inverse PCR and purify the product with spin column.
2. Design PCR primers for the gene of interest with 15 to 20 bp at 5'-extensions that are complementary to the ends of the linearized vector.
3. Amplify the gene of interest with Intact Genomics 2x PCR premix or any other high fidelity DNA polymerase. Run the PCR product on an agarose gel to determine the integrity of the PCR product.
4. Purify the PCR product with spin column.
5. Set up the ig-Fusion™ cloning reaction as follows: Insert and vector molar ratio 3:1 produce the highest number of colonies.

Linearized vector	x µl (50-100 ng)
Insert	x µl (50-100 ng)
5x ig-Fusion™ Enzyme Premix	2.0 µl
H_2O up to	10.0 µl

6. Mix the reaction mixture thoroughly.
7. Incubate the reaction mixture at 50 °C for 10-30 min, then place on ice. Number of colonies depend on the incubation time, insert size and number of inserts need to clone.
8. Use 2.0 µl of the reaction mixture and transform into high efficiency ig® 10B chemical or electroporation competent cells (**not included**). For the maximum number of colonies, we recommend using ig® 10B electrocompetent cells (Cat # 1212).

Related Products:

- ig® 10B Chemically Competent Cells (Cat.# 1011-12)
- ig® 10B ElectroCompetent Cells (Cat.# 1211-12)
- ig-Fusion™ Cloning Kit (Cat.# 4111)
- *Taq* DNA Polymerase 2x Premix (Cat.# 3249)

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.

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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.

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