

BD In-Fusion™ PCR Cloning Kit

Precise, directional cloning of PCR products—without restriction enzymes

- No restriction enzyme or ligase required
- Compatible with the BD Creator™ System for immediate expression analysis
- No A-overhang requirement—Use any thermostable polymerase for amplification
- Robust performance—easily clone up to 8 kb

The **BD In-Fusion™ PCR Cloning Kit** is designed for fast, high-throughput cloning of PCR products without the need for restriction enzymes, ligase, or blunt-end polishing. This kit includes our proprietary BD In-Fusion Enzyme and pDNR-Dual Donor Vector for generating precise, directional constructs that are immediately ready for expression analysis with our BD Creator™ Gene Cloning & Expression System.

The BD In-Fusion™ PCR cloning method

The BD In-Fusion method consists of a simple 30 min benchtop incubation of the PCR product with the linearized pDNR-Dual Vector, followed by transformation of *E. coli* (Figure 1). Optional blue/white selection on X-Gal plates can be used to screen out rare non-linearized vector background. Although linearized pDNR-Dual is provided, the BD In-Fusion enzyme action is universal and allows cloning of PCR products into any vector.

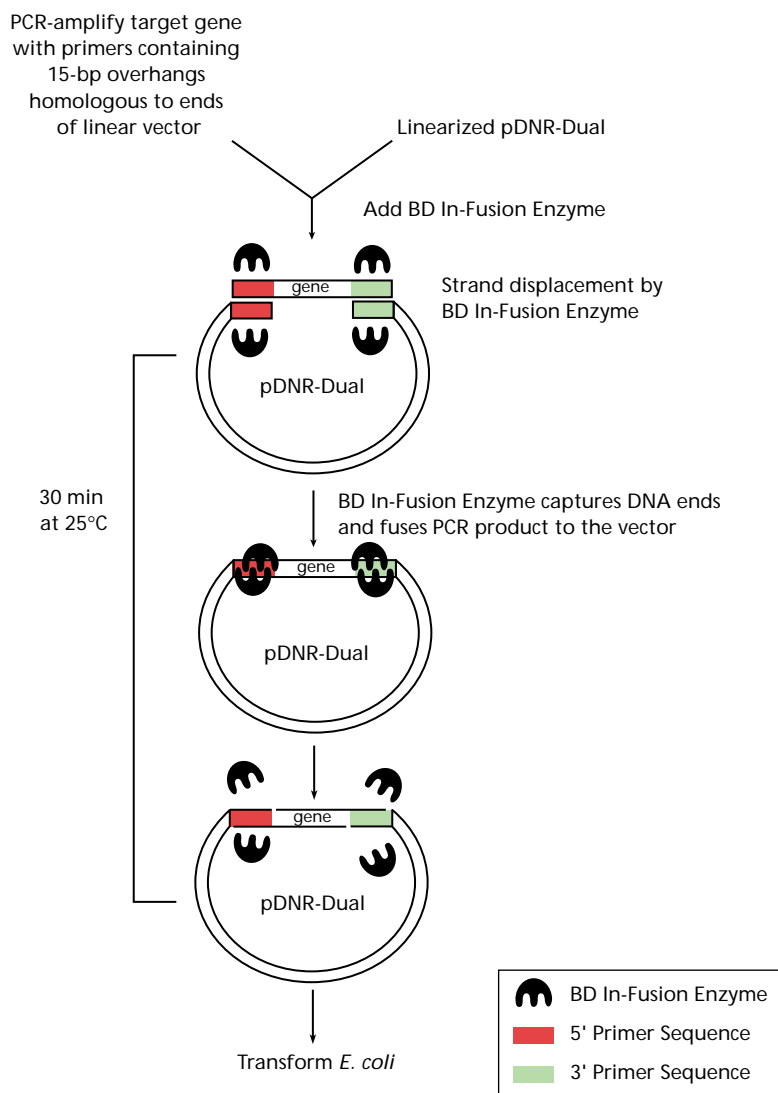


Figure 1. The BD In-Fusion™ cloning method.

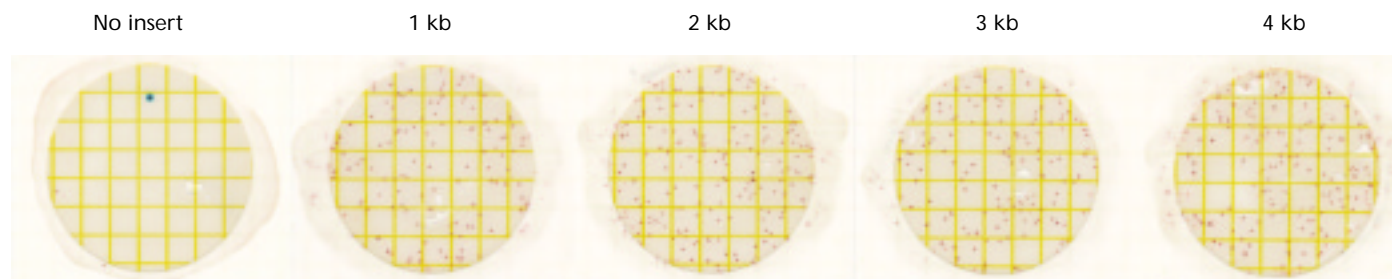


Figure 2. BD In-Fusion™ Method efficiently clones a range of insert sizes. BD In-Fusion Cloning was performed using 100 ng linear vector and 50 ng of each of the PCR products indicated. 1 µl of each 20 µl reaction was then transformed into BD Fusion-Blue™ competent cells. After 1 hr of outgrowth, 1/10 of the volume of each transformation was plated on BD CLONdisc™ plates.

BD In-Fusion™ PCR Cloning Kit...continued

Table I: BD In-Fusion™ is the most flexible and comprehensive cloning system available

	BD In-Fusion™ PCR Cloning Kit	TOPO TA cloning kits	Directional TOPO	T-A cloning
Directional	✓		✓	
Primer extension required	✓		✓	
Reaction time	10–30 min	5–30 min	5–30 min	Overnight
Blue-white screening	✓	Some kits		✓
Proofreading polymerase	✓	Some kits	✓	
Ligase not required	✓	✓	✓	
Gene transfer capabilities	BD Creator™ Systems		Gateway	None
High efficiency cloning of long fragments	✓			

In addition, virtually any PCR fragment can be cloned with this kit. The BD In-Fusion PCR cloning method does not require the presence of A-overhangs, so you can use any thermostable polymerase for amplification, including proof-reading enzymes such as *Vent* and *Pfu*.

For PCR amplification we recommend our BD Advantage™ 2 Polymerase Mix (#8430-1), a robust enzyme mix that is ideally suited for long-distance (LD) PCR and has been thoroughly tested with the BD In-Fusion protocol.

BD Creator™ System

The BD In-Fusion PCR Cloning Kit makes it easy to clone and characterize products (Figure 2). After you obtain a cDNA of interest, the BD Creator System enables directional, single-step, fast, and precise transfer of genes from pDNR-Dual to any one of our Acceptor Vectors. Then our wide variety of expression systems allow you to express the gene to study protein-protein interactions, protein localization, gene expression patterns, gene function, and more.

BD Fusion-Blue™ Competent Cells

High-efficiency, competent cells optimized for use with cutting-edge cloning and expression technologies.

- One-shot transformation aliquots
- PCR cloning
- BD Creator™ recombination
- Low background
- High efficiency

Product	Size	Cat. #
BD In-Fusion PCR Cloning Kit	50 rxns 100 rxns	K1916-1 K1916-2
BD Fusion-Blue Competent Cells	22 tubes	C5004-1

NEW!

BD In-Fusion™ Kit Components

- BD In-Fusion Enzyme concentrate
- BD In-Fusion Enzyme Dilution Buffer
- 10X BD In-Fusion Reaction Buffer
- 10X BSA
- pDNR-Dual, linearized
- 1.1-kb Control Insert

Related Products

- BD Advantage™ PCR Kits (many)
- BD Sprint™ Advantage™ 96 Plate (#K1950-1)
- pLP-CMV Acceptor Vector (#8901-1)
- pLP-EYFP-C1 Acceptor Vector (#6341-1)
- pLP-EGFP-C1 Acceptor Vector (#6342-1)
- pLP-ECFP-C1 Acceptor Vector (#6343-1)
- pLP-LNCX Acceptor Vector (#6344-1)
- pLP-IRES2-EGFP Acceptor Vector (#6345-1)
- pLP-IRESneo Acceptor Vector (#6346-1)
- pLP-RevTRE Acceptor Vector (#6347-1)
- pLP-TRE2 Acceptor Vector (#6348-1)
- pLP-GADT7 AD Acceptor Vector (#6349-1)
- pLP-GBKT7 DNA-BD Acceptor Vector (#6350-1)
- pLP-CMV-Myc Acceptor Vector (#6351-1)
- pLP-PROTet-6xHN Acceptor Vector (#6352-1)
- BD Creator™ Acceptor Vector Construction Kit (#K1690-1)
- pLPS-3' EGFP Acceptor Vector (#6360-1)
- pLP-CMVneo Acceptor Vector (#6361-1)
- pLP-CMV-HA Acceptor Vector (#6362-1)
- pLP-BacPAK9 Acceptor Vector (#6211-1)
- pLP-BacPAK9-6xHN Acceptor Vector (#6212-1)