

NEW GeneJET™ PCR Cloning Kit**Fast and easy cloning in 5 minutes – only insert positive clones**

GeneJET™ PCR Cloning Kit is an advanced positive selection system for the highest efficiency cloning of PCR products.

- Ligation in just 5 minutes
- No tedious colony screening
- No time-consuming purification of PCR products

Any PCR product (both blunt-end and sticky-end) can be used. Blunt-end PCR products are directly ligated within the cloning vector, while the sticky-end PCR products are blunted in 5 minutes prior to ligation.

All common *E. coli* strains can be directly transformed with the ligation product.

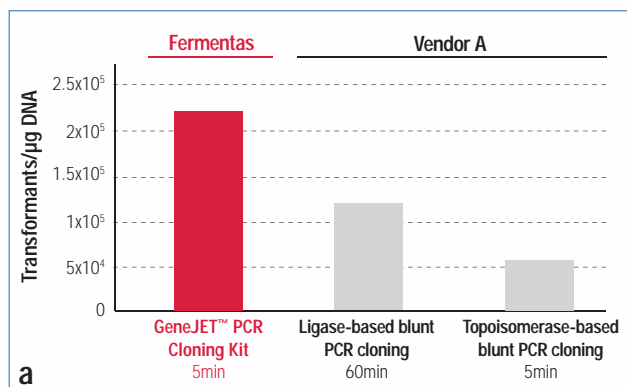
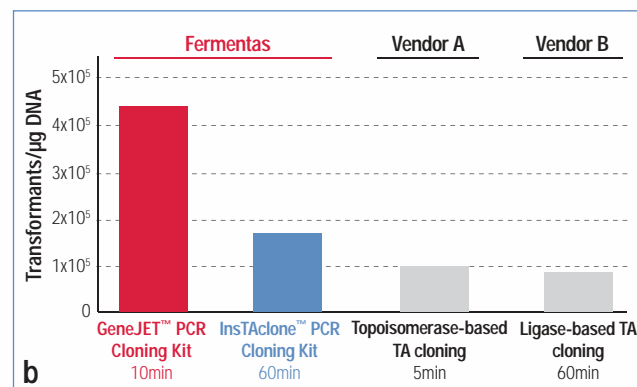
GeneJET™ PCR Cloning Kit features a novel, high-copy, ready-to-use positive selection cloning vector (pJET1/blunt) that allows only recombinant plasmids to be propagated, eliminating background colonies.

Features

- **Fast** – 5 minute cloning of PCR products
- **Highest efficiency** – greater than 99% positive clones
- **No background** – positive selection vector
- **Universal** – any DNA fragment with any end structure can be cloned:
 - blunt-end
 - sticky-end
 - with or without 5'-phosphates

Applications

- Cloning of blunt-end PCR products, generated with *Pfu* or other proofreading DNA polymerases
- Cloning of sticky-end PCR products, generated with *Taq* DNA polymerase
- Cloning of PCR products, generated with DNA polymerase mixes
- Cloning of any DNA fragment derived from restriction digestion
- Sequencing of cloned DNA

Highest Efficiency Cloning of Blunt-end PCR Products**Highest Efficiency Cloning of Sticky-end PCR Products**

A 976 bp PCR product was directly ligated into different vectors, according to the vendors' protocols. Ligation mixtures (2µl) were used to transform *E. coli* DH10B cells. Transformation efficiency of competent cells was 1×10^7 transformants per µg supercoiled DNA.

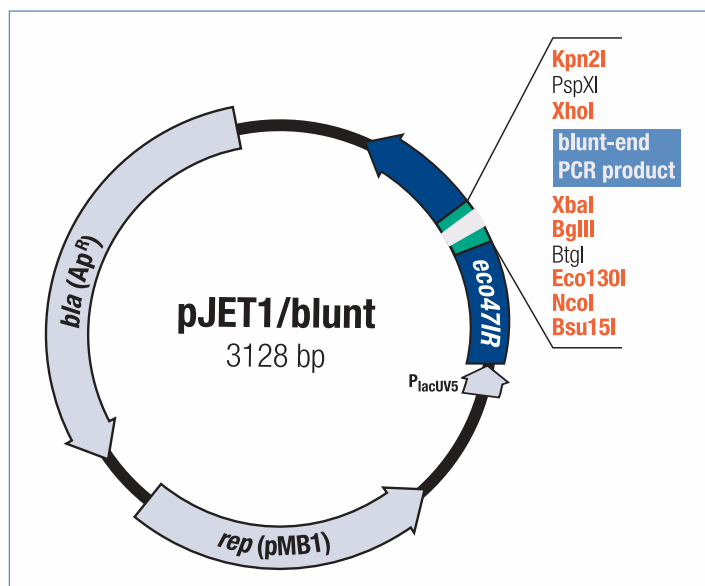
a – blunt-end PCR product, generated with *Pfu* DNA Polymerase (#EPO501)

b – sticky-end PCR product, generated with *Taq* DNA Polymerase (#EPO401)

Fast and Easy GeneJET™ PCR Cloning Procedure

Procedure	Blunt-end PCR product	Sticky-end PCR product
Blunting ↓	–	5min
Ligation ↓	5min	5min
Transformation of the cells competent <i>E.coli</i> cells prepared with the TransformAid™ Bacterial Transformation Kit (#K2710) ↓	5min	5min
Plating ↓	immediately	immediately
Total time:	10min	15min

pJET1/blunt Vector Map



Kit Components

- pJET1/blunt
- T4 DNA Ligase
- 2X Reaction Buffer
- Blunting Enzyme
- pJET1 Forward Sequencing Primer
- pJET1 Reverse Sequencing Primer
- Control PCR Product
- Water, nuclease-free

A novel pJET1/blunt vector contains the gene for a restriction enzyme which is lethal for all *E.coli* strains commonly used for cloning. Ligation of a DNA fragment into the cloning site disrupts this lethal gene. As a result, only cells with recombinant plasmids can be propagated.

Product	Catalog #	Amount
NEW GeneJET™ PCR Cloning Kit	K1221	20 reactions
	K1222	40 reactions
TransformAid™ Bacterial Transformation Kit fast preparation of chemically competent <i>E.coli</i> cells from overnight bacterial cultures or colonies	K2710	20 transformations
	K2711	40 transformations

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