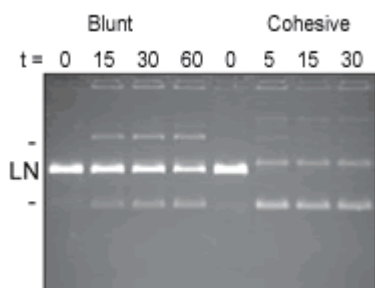


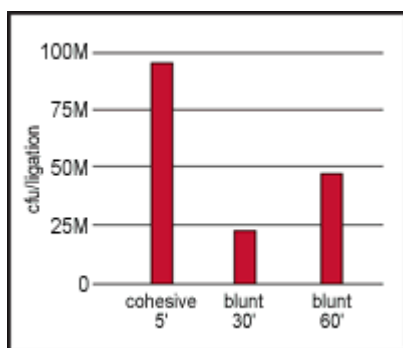
## CloneDirect™ Rapid Ligation Kits

Transformation-ready in minutes...without a DNA cleanup step!

The CloneDirect Rapid Ligation Kit is a simple, rapid, highly efficient alternative to traditional ligation and transformation protocols. Conventional ligation kits require a post-ligation cleanup step before electroporation, which consumes time and risks the loss of precious DNA. Lucigen's new CloneDirect Rapid Ligation Kit is unique in eliminating this cleanup step. A 15-minute heat denaturation at 70°C is all that is needed prior to cell transformation.



**Figure 1.** Ligation efficiencies measured by agarose gel electrophoresis. pUC19 plasmid DNA was linearized with HincII to produce blunt ends or with HindIII to produce 5' cohesive ends, as indicated. Plasmids (100 ng each) were recircularized using the CloneDirect Kit for the indicated times (in minutes). Ligation was detected as conversion of linear plasmid (LN) to other ligated forms, two of which are indicated on the figure. (Note that a ligated band migrating immediately above linear should not be confused with linear.) Densitometry indicated that the blunt plasmid was 57% ligated after 60 minutes and the cohesive ended plasmid was 98% ligated after 5 minutes.



**Figure 2.** Ligation efficiencies measured by transformation. Selected plasmids (5 ng each) from Fig. 1 were heat denatured at 70°C and used without additional cleanup to transform electrocompetent *E. coli*® 10G cells. The resulting transformants (in millions of transformants) are shown.

### Advantages

- **Fast ligation time:** 5 minutes for cohesive ends, 30 to 60 minutes for blunt ends.
- **High efficiency:** Greater than 95% ligation of cohesive ends; greater than 50% ligation of blunt ends with properly prepared DNA.
- **No cleanup after ligation:** Use directly to transform cells, when used with *E. coli* 10G cells.
- **Convenient, premixed components:** Simply add CloneDirect Ligation Mix to your DNA.
- **Highly reliable and reproducible results:** The CloneDirect Kit is optimized and tested for cloning cDNA, PCR products, and genomic DNA fragments, as well as for linker ligation.

### Specifications

- **Cohesive Ligation:** Treatment of 100 ng of cohesive-ended plasmid with the CloneDirect Rapid Ligation Kit results in >95% ligated fragments in 5 minutes.
- **Blunt Ligation:** Treatment of 100 ng of blunt-ended plasmid with the CloneDirect Rapid Ligation Kit results in >50% ligated fragments in 60 minutes.

## Applications

- Cloning of cohesive or blunt-ended restriction fragments
- Shotgun library construction
- PCR cloning
- cDNA cloning
- Linker ligation

[CloneDirect Rapid Ligation Kit Manual](#)