

# GenBuilder DNA Assembly Kits

Highest Efficiency Seamless Cloning Solution



## Robust Performance

Up to 12 DNA Fragments



## Highest Cloning Efficiency

Tested among 8 DNA Assembly Kits

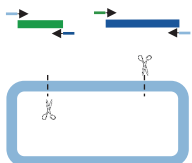


## Short Assembly Time

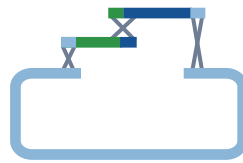
Incubation within 15 minutes

Features	GenBuilder™ Cloning Kit	GenBuilder™ Plus Cloning Kit
Cat. No.	L00701	L00744
Highlights	Multi-gene cloning for up to 6 fragments	Multi gene cloning for up to 12 fragments
Number of fragments	6	12
Cloning efficiency %	>90%	>90%
Plasmid library construction	Suitable	Recommended
Incubation time	15 min	15 min
Cloning unpurified PCR product	Efficient	Highly efficient
Assembly with single stranded oligos	No	Yes
HT cloning	Yes	Yes
Seamless cloning	Yes	Yes
Cloning fragments >5 kb	Yes	Yes
Positive control	Linearized pUC57 with two fragments to reconstitute RFP for visual determination of cloning efficiency	Linearized pUC57 with two fragments to reconstitute RFP for visual determination of cloning efficiency
Size (No. of Reactions)	10, 50, customized	10, 50, customized

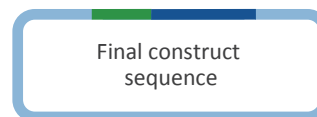
## Assembly Workflow



1. Prepare the DNA fragments with overlaps and the linearized vector for assembly.



2. Add DNA fragments and linearized vectors in the GenBuilder™ master mix. Mix well and incubate at 50°C for 15-50 minutes.



3. Transform assembly product into competent cells and plate on selective medium. Obtain colonies containing the assembled DNA.



## Highest cloning efficiency

GenBuilder and GenBuilder Plus have the highest cloning efficiency among competitors

### A. DNA Assembly with five PCR fragments

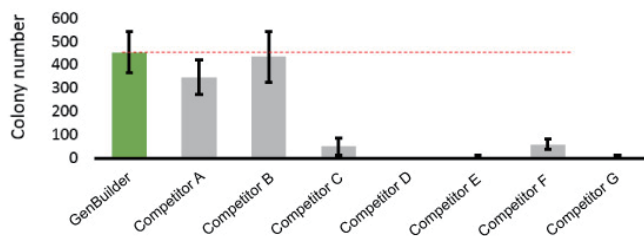


Figure 1. Cloning five or more PCR fragments with GenBuilder, GenBuilder Plus and other cloning kits

## Performance Comparison of Assembly Kits

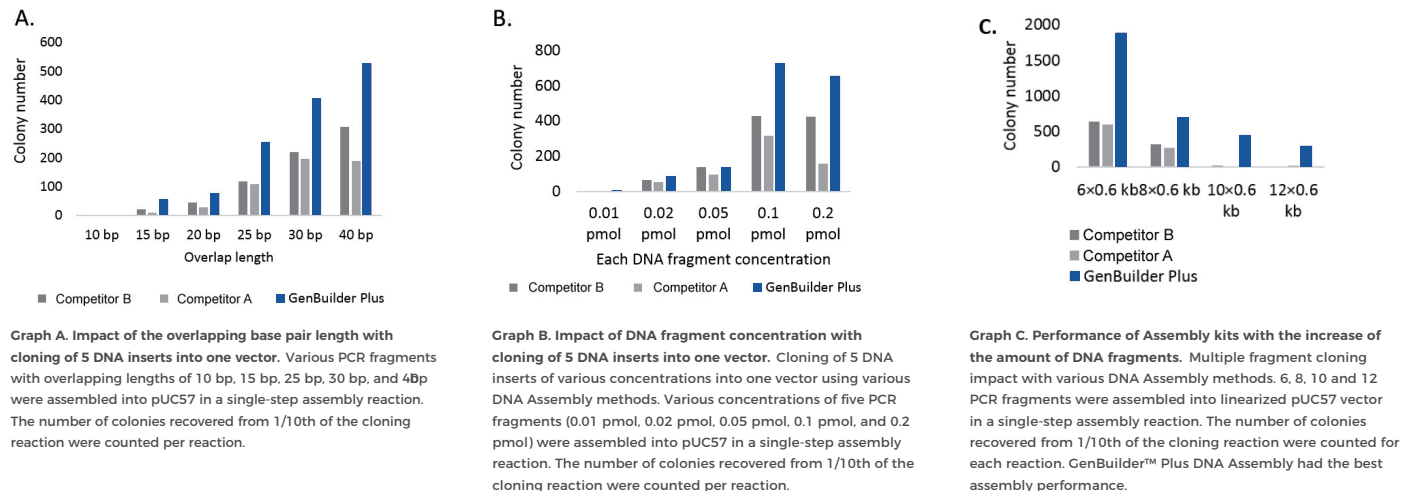
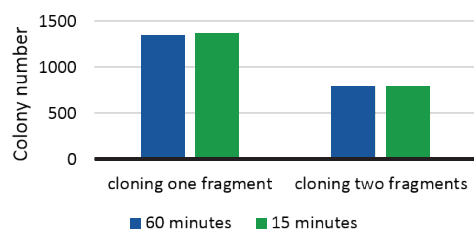


Figure 2. (graphs A, B and C). Comparison study of GenBuilder™ Plus DNA Assembly kit with Competitors A and B.

## Reduced Reaction Incubation Time

Successful assembly in only 15 minutes



### Figure 3. Cloning Efficiency Comparison: Incubation Time with GenBuilder™ Master-Mix

DNA assembly into the pUC57 vector was tested with a 1 kb PCR fragment and two 1.5 kb PCR fragments. GenBuilder™ reactions were incubated at 50°C for 15 or 60 minutes, then transformed into chemically competent DH10B cells. After recovery in 1 mL SOC medium, cells were spread on selective plates. Results showed no significant difference in colony numbers between 15-minute and 60-minute incubations. All colonies were >90% PCR positive.