

Seamless Cloning Kit

Seamless cloning technology based on recombination principles relies on the recombination of 15-25 nt homologous sequences between the insert fragments and the ends of linearized vector. This method eliminates the relatively complex steps of restriction enzyme digestion and ligation. Theoretically, it can clone inserted fragments into any site of any vector without introducing additional sequences, featuring high recombination efficiency, extremely low background of vector self-ligation, and it is a simple, rapid, and efficient technique of DNA cloning.

Compared to the previous generation product, the upgraded DNA Assembly Mix Ultra retains its high efficiency and thermal stability while offering improvements in the following aspects:

1. Utilized HiFi Taq DNA Ligase to enhance fidelity.
2. Optimized formula enhances product stability, resisting the effects of repeated cap opening oxidation and dry ice transportation.
3. Added a transformation enhancer to increase the number of transformants.



Products Features

• Simple and Convenient

Compatible with PCR and restriction enzyme digestion product, eliminating the need for tedious purification steps

• Fast Reaction

Significantly shortened reaction time, with the fastest completion in 1 minutes

• Stable performance

Strong tolerance to high temperature, oxidation, repeated freezing and thawing, dry ice, and other adverse conditions including carbon dioxide

• High Positive Rate

Directed cloning of a single DNA fragment into a vector with a positive rate higher than 95%
 Directed cloning of multiple DNA fragments into the vector with a mutation rate lower than 5%.

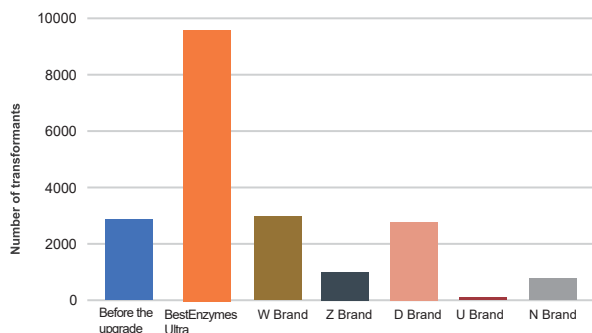
• Compatible with Single and Multi-Fragment Insertion

Allows simultaneous insertion of single or multiple fragments, eliminating the need for repetitive purification and digestion steps

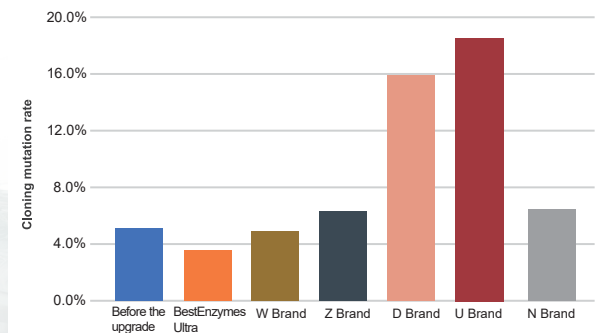
Technical Features

High Transformation Efficiency and Low Mutation Rate

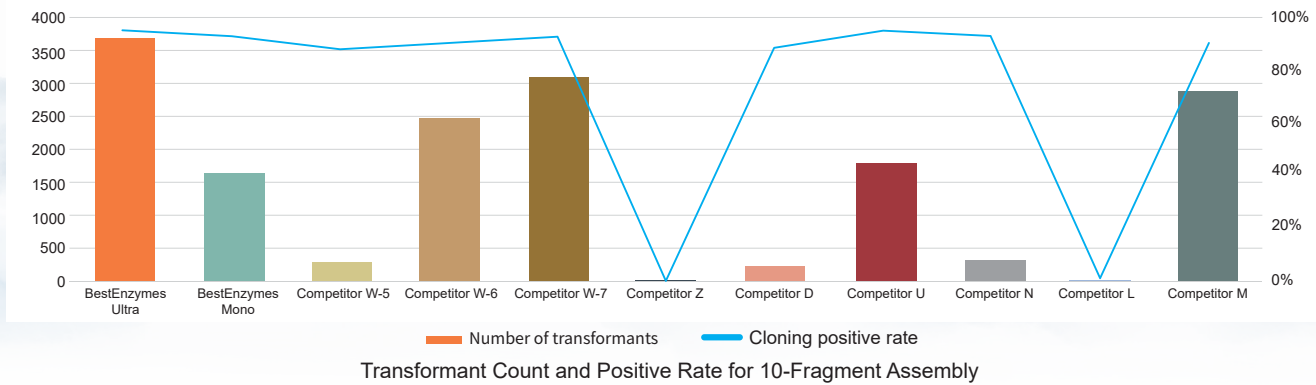
DNA Assembly Mix Ultra retains excellent single-fragment cloning performance while offering more significant advantages in terms of transformant yield and mutation rate for multi-fragment cloning. Even under 10-fragment ligation conditions, it can still achieve sufficient transformant counts and a high positive rate.



Number of transformants for 4-fragment cloning

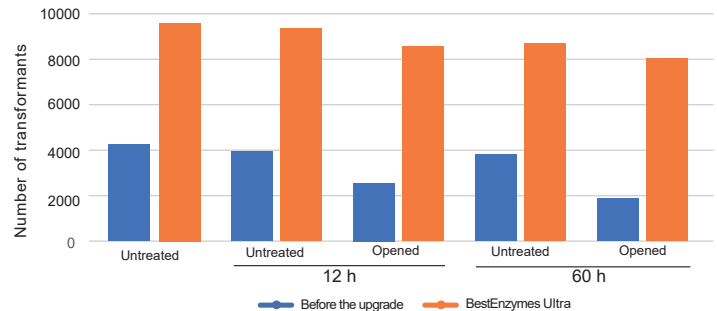
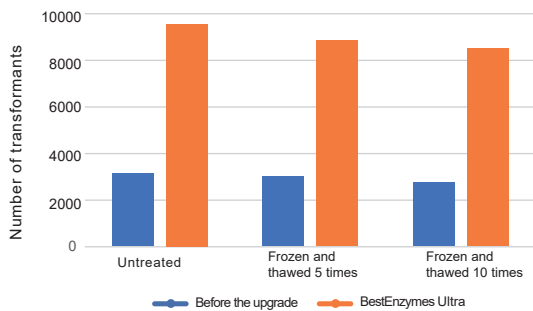
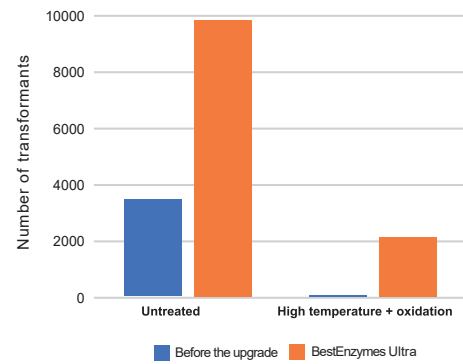
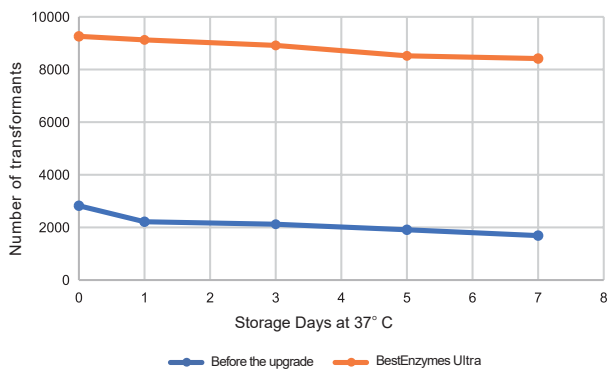


Mutation rate of 4-fragment cloning



Stable performance, resilient to extreme conditions.

DNA Assembly Mix Ultra offers improved stability compared to the previous version. It ensures sufficient numbers of positive transformants even under adverse conditions such as high temperatures, oxidation, repeated freeze-thaw cycles, or exposure to dry ice or carbon dioxide.



Moreover, we introduce our DNA Assembly Mix mono—a specialized solution for single-fragment assembly. With a rapid reaction time of just 1~15 minutes, it delivers exceptional cost-effectiveness without compromising performance.

Ordering Information

REF No.	Product Name	Specs
EG24204S	DNA Assembly Mix Ultra	50 rxns
EG25202S	DNA Assembly Mix mono	50 rxns
EG25202M	DNA Assembly Mix mono	250 rxns

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