

In-Fusion HD Cloning Plus Systems

Complete, optimized systems

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Each system fully equips you for every step, bringing the price per reaction in line with the true total cost of your experiment. The components have been optimized to work together efficiently, and provide you with a high out-of-the-box success rate.

Our complete range of In-Fusion HD Cloning Plus kits allows you to choose the version that best fits your experimental needs.

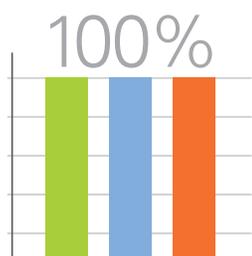
The flexibility and speed of the In-Fusion mechanism means it can be easily adapted for nearly every cloning application.

Complete systems include:

- CloneAmp™ HiFi PCR Premix
- PCR product treatment (either Cloning Enhancer or a NucleoSpin Gel and PCR Cleanup kit)
- In-Fusion HD Enzyme Premix
- Stellar™ Competent Cells

Table I. Selection Guide for In-Fusion HD Cloning Systems

	In-Fusion HD Cloning Plus System	In-Fusion HD Cloning Plus CE System	In-Fusion HD EcoDry™ Cloning Plus System
System format	liquid	liquid	lyophilized
Ability to customize reaction volume and/or plasticware	✓	✓	
Easily scalable for high-throughput applications		✓	
Minimize handling with pre-aliquoted, lyophilized components			✓
Store reagents at room temperature			✓
Fast, enzymatic removal of background DNA and PCR residue (for PCR that produces a single, clean band)		✓	
Suitable for PCR and gel extraction when PCR produces >1 product	✓		✓



Exceptional cloning accuracy with In-Fusion HD Cloning.

Consider the following scenario:

The Experiment

One vector
Three inserts
One 15-minute reaction

The Results

26/26 colonies (100% cloning accuracy)
Sequence-verified
Low background (single colony on no-insert plate)

In-Fusion technology reliably demonstrates high cloning accuracy in all applications. This is especially useful with more challenging projects such as multiple-insert cloning, where high background and false positives present a bigger problem.

Traditional Cloning Reagents

Enzymology and purification expertise

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Clontech's product portfolio leverages the deep enzymology expertise of Takara and the renowned purification expertise of Macherey-Nagel. With this expansive molecular biology toolbox, Clontech continues to offer a comprehensive supply of reagents and kits for every step of your traditional cloning projects.

Ligation Kits



When choosing a ligation kit, it's important to consider a number of factors such as length of insert, reaction speed, and the type of ends—blunt, A-overhang, or sticky. In addition, you may need to consider compatibility with high-throughput applications. Regardless of your experimental needs, we provide excellent options.

DNA Ligation Kit, Mighty Mix

A single solution with the convenience of a ready-to-use 2X ligation mix, enabling high-efficiency ligations, particularly for blunt-ended reactions. Choose either the 5-minute or 30-minute protocol, depending on the type of DNA you are using. Reaction volumes are scalable down to 10 μ l, and reaction mixtures can be used directly in bacterial transformation.

DNA Ligation Kit, Version 2.1

Enables high efficiency ligation of all cloning procedures in 30 minutes, and as little as 3 minutes for general ligation reactions. This kit is also appropriate for use in linker ligation. For select bacterial transformations, the ligation mix can be used without a need for DNA purification.

TaKaRa DNA Ligation Kit LONG

A powerful tool for cloning long DNA fragments between 2 kb and 10 kb in length without the need for complicated techniques or special expertise. Its simple protocol and superior ligation efficiency are especially well-suited for BAC library construction.

Table II. Selection Guide for Ligation Kits

	DNA Ligation Kit, Mighty Mix	DNA Ligation Kit, Version 2.1	TaKaRa DNA Ligation Kit LONG
Speed	✓	✓	
Long inserts & BAC library construction			✓
Small volume	✓	✓	
High throughput	✓		
TA cloning	✓	✓	✓
Blunt-end cloning	✓	✓	✓
Sticky-end cloning	✓	✓	✓

PCR Polymerases

A crucial element to successful cloning is an error-free insert. A PCR polymerase capable of amplifying your templates for both cloning and colony screening is key to seeing accurate results. Clontech offers a wide range of DNA polymerases to suit every cloning project.

- **CloneAmp HiFi PCR Premix**
- **SapphireAmp® Fast PCR Master Mix**
- **PrimeSTAR® GXL DNA Polymerase**

Table III. Selection Guide for DNA Polymerases for Cloning

CloneAmp HiFi PCR Premix	SapphireAmp Fast PCR Master Mix	PrimeSTAR GXL DNA Polymerase
Optimized for use with In-Fusion Cloning	Analyze without purification	Robust, high-fidelity PCR in all conditions
Extremely low error rate	Restriction digest	Excels with long templates
Quick priming & extension	Gel electrophoresis	GC- or AT-rich targets
Templates up to 10 kb	Colony PCR in ~1 hour	Templates with repeats
GC-rich templates	Master mix includes dye	

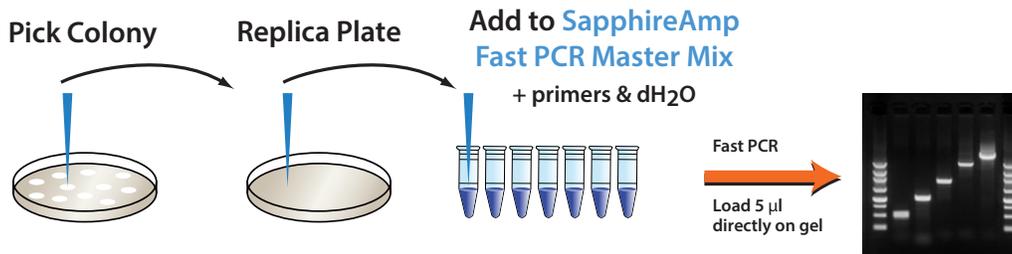


Figure 3. Colony PCR protocol with SapphireAmp Fast PCR Master Mix. Colony PCR can be set up with two basic steps: 1. Pick a colony 2. Inoculate a replica plate.

Additional Reagents

We also have a full collection of restriction enzymes, T4 ligase, and modifying enzymes to complete your traditional cloning experiments. Please visit www.clontech.com/cloning to browse our molecular cloning portfolio.

Count on your reagents to get the job done—to inform, inspire, and create. From specialty products to everyday essentials, Clontech offers best-in-class products that provide great value and are backed by our expert support, in order to help push your research to its fullest potential.



PRODUCTS

Cat. #	Product	Size
In-Fusion Cloning		
638909	In-Fusion HD Cloning Plus	10 Rxns
638910	(Liquid system, includes: In-Fusion HD Enzyme Premix, CloneAmp HiFi PCR Premix,	50 Rxns
638911	Stellar Competent Cells, and NucleoSpin Gel and PCR Clean-Up kit)	100 Rxns
638920		96 Rxns
638916	In-Fusion HD Cloning Plus CE	10 Rxns
638917	(Liquid system, includes: In-Fusion HD Enzyme Premix, CloneAmp HiFi PCR Premix,	50 Rxns
638918	Stellar Competent Cells, and Cloning Enhancer)	100 Rxns
638919		96 Rxns
638912	In-Fusion HD EcoDry Cloning Plus	8 Rxns
638913	(Lyophilized system, includes: In-Fusion HD Enzyme Premix, CloneAmp HiFi PCR Premix,	24 Rxns
638914	Stellar Competent Cells, and NucleoSpin Gel and PCR Clean-Up kit)	48 Rxns
638915		96 Rxns
Ligation Kits		
6023	DNA Ligation Kit, Mighty Mix	100 Rxns
6022	DNA Ligation Kit, Version 2.1	50 Rxns
6024	TaKaRa DNA Ligation Kit LONG	50 Rxns
PCR Polymerases		
639298	CloneAmp HiFi PCR Premix	200 Rxns
RR350A	SapphireAmp Fast PCR Master Mix	160 Rxns
RR350B		800 Rxns
R050A	PrimeSTAR GXL DNA Polymerase	250 Units
R050B		1,000 Units

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