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Colony Fast-Screen™ Kits

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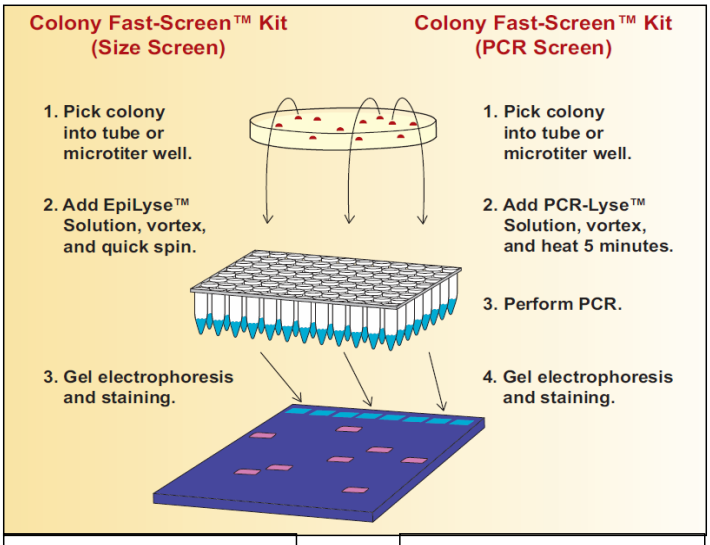
Excellence in Molecular Biology

Screening for clones?
Eliminate the need for cultures, mini preps, digestions or DNA purification

The Colony Fast-Screen™ Kit (Size Screen) provides a rapid and sensitive method for estimating the size of cloned DNAs from colonies on primary culture plates without the need to grow cultures, or perform minipreps or restriction endonuclease digestions. The size of most clones can be determined in 1 hour or less. BAC clone sizes can be estimated in as little as 4 hours. The kit provides optimal performance with high-copy-number clones.

The Colony Fast-Screen™ Kit (PCR Screen) provides a rapid method for preparing clones for screening by PCR. Using the Colony Fast-Screen Kit (PCR Screen) there is no need to grow cultures or purify DNA prior to PCR. The kit can be used with all standard *E. coli* hosts and all cloning vectors. Thermostable polymerase and PCR primers are not provided.

For research use only



Size Screen Kit rapidly screens the size of plasmid fosmid,cosmid or BAC clones .

PCR Screen Kit rapidly prepares clones for screening by PCR and identifies desired clones in a library

•Benefits

•Easy Less hands-on time and fewer manipulations; no enzymes

•Efficient No need to grow overnight cultures, isolate DNA and perform restriction enzyme digests

•Sensitive (PCR Screen) Kit enables screening of high-copy clones or single-copy clones and bacterial genomic DNA

•High Throughput Routine and high throughput cloning applications Rapid— (Size Screen) Determine the size of PCR, cDNA and other clones in 1 hour and BACclones in 4 hours

Screen for clones in under 4 steps using Colony Fast™ Kits

L5A

EZ-Tn5™ & HyperMu™ Insertion Kits

An easier way to close those sequencing gaps

EZ-Tn5™ and HyperMu™ Insertion Kits provide transposon-based strategies for efficient DNA sequencing that do not require primer walking or subcloning. Both transposition systems are ideal for closing sequencing gaps that are caused by highly repetitive DNA, AT- and GC-rich regions, or poor quality sequencing traces.

A simple, *in vitro* reaction randomly inserts a transposon containing a selectable marker into a genomic clone. Then, transform *E. coli* with an aliquot of the reaction and select for the marker encoded by the transposon. Up to millions of independent insertion clones are obtained, each with a single transposon at a different site. Prepare template DNA from randomly chosen insertion clones and sequence bidirectionally from the primer binding sites near the ends of the transposon.

EZ-Tn5™ Insertion Kits are based on a system that retains the highly random insertion characteristics of Tn*5* but has a transposition frequency 1000-fold higher than wild-type Tn*5*.

HyperMu™ Insertion Kits are a Mubased system which use a hyperactive enzyme that retains the highly random insertion characteristics of MuA transposase but is at least 50-times more active *in vitro* than the enzyme from other suppliers.

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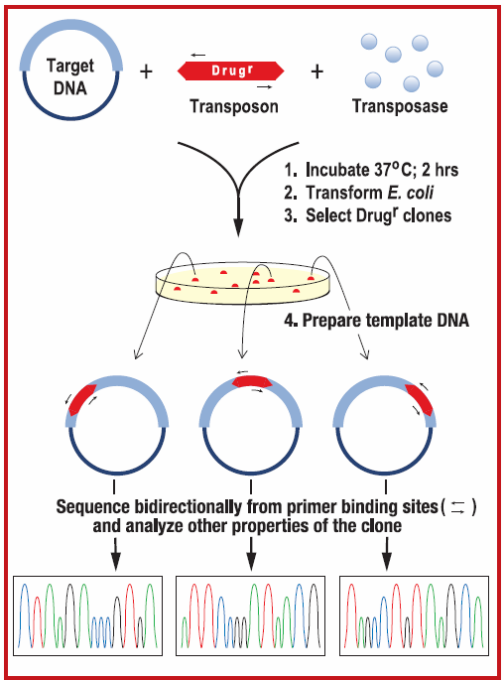

Figure 1.The process for generating DNA sequencing templates using an EZ-Tn5™ Insertion Kit

Benefits

•Transposon insertions are highly random so primer binding sites are distributed throughout a clone, without "hot spots" or extensive gaps between insertions.

•A single reaction generates up to 106 insertion clones-enough to sequence even a large BAC clone.

• Generate sequencing reads simultaneously from multiple transposon insertion clones rather than from sequential "walks" of a template.

•Easily confirm the order of an assembled sequence by physically mapping where the transposon has inserted.

•Per-sequence-read cost is very comparable to other methods used in high-throughput sequencing labs.

Related Products

EZ-Tn5™ <KAN-2> Insertion Kit	
EZI982K-F14	10 Reactions
EZ-Tn5™ <TET-1> Insertion Kit	
EZI921T-F14	10 Reactions
EZ-Tn5™ <DHFR-1> Insertion Kit	
EZI912D-F14	10 Reactions
HyperMu™ <KAN-1> Insertion Kit	
HMI032K-F14	10 Reactions
HyperMu™ <CHL-1> Insertion Kit	
HMI039C-F14	10 Reactions

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EPICENTRE®
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TransforMax™ Competent Cells

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Excellence in Molecular Biology

A range of competent cells for your cloning needs.

EPICENTRE's Competent Cells provide very high transformation efficiency with a wide range of different size supercoiled DNAs (8 kb to 145 kb have been tested). Even DNA introduced to the cells directly from a ligation reaction gives exceptional transformation efficiencies. All of EPICENTRE's Competent Cells incorporate useful cloning genotypes as standard features (see benefits)

Benefits

Restriction minus (*mcrA*, Δ(*mrr-hsdRMS-mcrBC*) enables efficient cloning of methylated DNA

Endonuclease minus (*endA1*) to ensure high yields of DNA

Recombination minus (*recA1*) for greater stability of large cloned inserts

lacZΔM15 for blue/white screening of recombinants

Readily accept large DNA of at least 23 kb (some cells accept > 145 kb) .

Most competent cell types
are available with or without phage T1 resistance

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Cell Type	Catalog Number	Transformation Efficiency cfu/µg pUC19	Special Features	Accepts Large DNA
TransforMax™ EC100™ Electrocompetent *E. coli*	**EC10005-F13** 5 x 100 µl **EC10010-F13** 10 x 100 µl	>1 X 10^{10}	**All-Purpose** Electroporation	145 kb Good for Libraries
TransforMax™ EC100™ Chemically Competent *E. coli*	**CC02810-F13** 10 x 50 µl	>1 X 10^{8}	**All-Purpose** Chemical Transformation	At least 23 kb
TransforMax™ EC100™-T1^{R} Electrocompetent *E. coli*	**EC0205T1-F13** 5 x 100 µl **EC0210T1-F13** 10 x 100 µl	>5 X 10^{9}	**T1 & T5 Phage Resistant** All-Purpose Electroporation	145 kb Good for Libraries
TransforMax™ EC100™-T1^{R} Chemically Competent *E. coli*	**CCT10210-F13** 10 x 50 µl	>5 X 10^{7}	**T1 & T5 Phage Resistant** All-Purpose Chemical Transformation	At least 23 kb
TransforMax™ EPI300™ Electrocompetent *E. coli*	**EC300105-F13** 5 x 100 µl **EC300110-F13** 10 x 100 µl **EC300150-F13** 50 x 100 µl	>1 x 10^{10}	**Use with CopyControl™ Clones or EZ::TN™ <*orN*/KAN-2> Transposon Clones** (Single copy or induce to 10-200 copies/cell depending upon insert size and sequence)	At least 145 kb Good for Libraries
TransforMax™ EPI300™ Chemically Competent *E. coli*	**C300C105-F13** 10 x 50 µl	>1 x 10^{7}		At least 23 kb
TransforMax™ EPI300™-T1^{R} Electrocompetent *E. coli*	**EC02T15-F13** 5 x 100 µl **EC02T110-F13** 10 x 100 µl	>5 x 10^{9}	**T1 & T5 Phage Resistant Use with CopyControl™ Clones or EZ::TN™ <*orN*/KAN-2> Transposon Clones** (Single copy or induce to 10-200 copies/cell depending upon insert size and sequence)	At least 145 kb Good for Libraries
TransforMax™ EPI300™ -T1^{R} Chemically Competent *E. coli*	**CT1C0210-F13** 10 x 50 µl	>5 x 10^{7}		At least 23 kb
TransforMax™ EC100D™ *pir*$^{+}$ Electrocompetent *E. coli*	**ECP09500-F13** 5 x 100 µl	>1 X 10^{9}	***pir*$^{+}$** use with R6Kγ*ori* for 15 copies/cell	Up to 100 kb
TransforMax™ EC100D™ *pir*-116 Electrocompetent *E. coli*	**EC6P095H-F13** 5 x 100 µl	>1 X 10^{9}	***pir*-116** use with R6Kγori for 200 copies/cell	Up to 50 kb

Obtain high efficiency transformation without compromise

L5C

FastLink™ DNA Ligation Kit

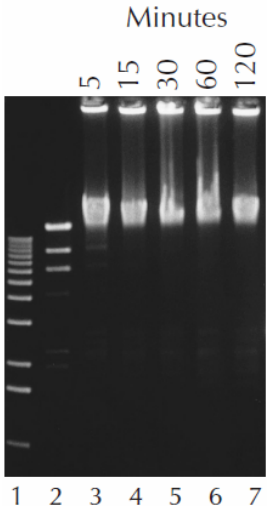
DNA Ligation in 5 minutes!

FastLink™ DNA Ligation Kit

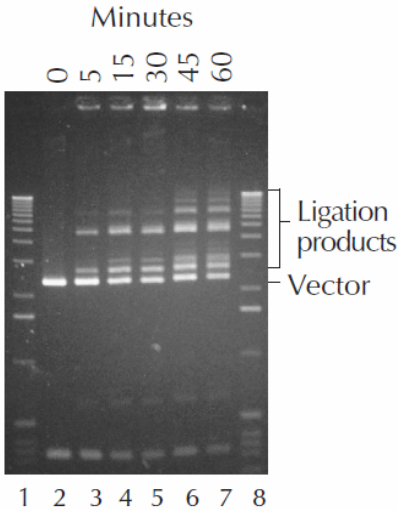
The Fast-Link™ DNA Ligation Kit is specially formulated to provide the fastest high-efficiency DNA ligations for routine and high-throughput DNA cloning.

Applications

- TA cloning
- PCR blunt-end cloning
- Genomic DNA cloning and
- subcloning
- cDNA cloning



Time course for cohesive-end ligation using the Fast-Link™ Kit. Lambda *Hind* III markers were ligated in a standard Fast-Link reaction using 2 Units of Fast-Link™ DNA Ligase (Lanes 3-7). Lane 1, 1-kb ladder; Lane 2, no enzyme



Time course for blunt-end ligation using the Fast-Link™ Kit. pUC19 digested with *Pvu* IIwas self-ligated in a standard Fast-Link reaction using 2 Units of Fast-Link™ DNA Ligase (Lanes 2-7). Lanes 1 and 8, 1-kb ladder.

Benefits

- Cohesive-end ligations in
- 5 minutes at room temperature

- Blunt-end ligations in 15
- minutes at room temperature

- Ligation of PCR product with
- A-overhangs in 1 hour at 16°C

- High ligation efficiency

- Saves time -- Desalting of
- ligation products prior to
- transformation is not necessary

- Simple four-step protocol

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Table 1. Fast-Link™ representative results.

	Ligation Time	% White Colonies	Recombinants per µg DNA
Overhang	5 min.	93	2.0 x 10^{6}
Blunt	5 min.	71	4.4 x 10^{5}
PCR product	1 hr.	68	1.2 x 10^{4}

Related Products
Colony Fast-Screen™ Kit (PCR Screen)
Colony Fast-Screen™ Kit (Size Screen)
TransforMax™ EC100™ Electrocompetent *E. coli*
TransforMax™ EC100™ Chemically Competent *E. coli*
T4 DNA Ligase
HK™ Thermolabile Phosphatase
GELase™ Agarose Gel-Digesting Preparation
pIndigoBAC-5 (Cloning-Ready) Vectors
End-It™ DNA End-Repair Kit

High efficiency DNA ligation

L5D Tel: 01954 210200 www.cambio.co.uk