GeneAll®

Catalog 2018/19

Innovative Life Science System

Customer & Technical Support

Should you have any further questions, do not hesitate to contact us.

We appreciate your comments and advice.

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Visit GeneAll® Community

www.geneall.com

www.geneall.co.kr

About GeneAll

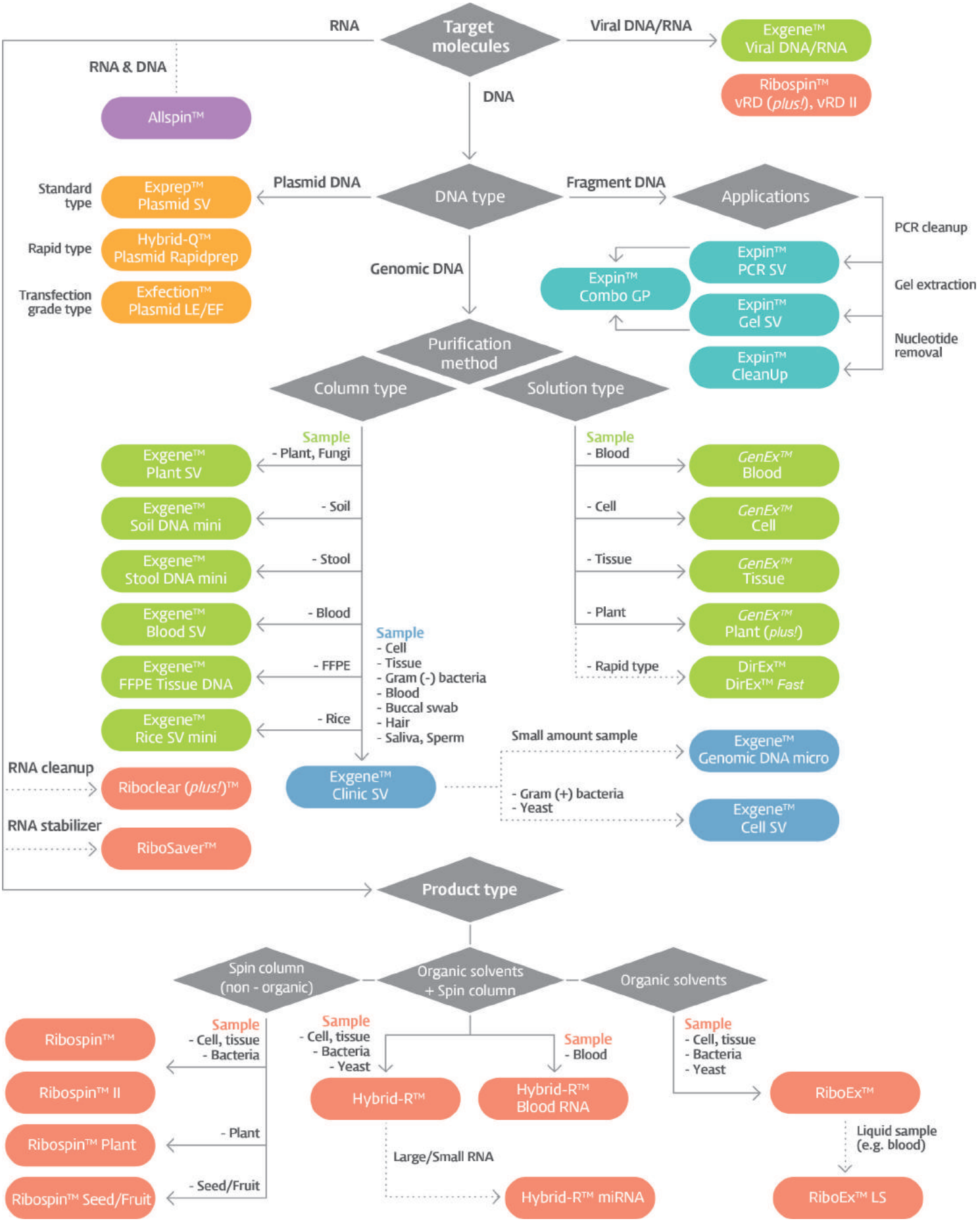
With the advance in molecular biological techniques, researchers have preferred the commercial ready-made kits to lab-made reagents in order to concentrate on doing research itself rather than making reagents. GeneAll® DNA and RNA Purification kit series are basic materials in molecular biological experiments and offer fast, accurate, convenient and reproducible methods. Every GeneAll® product is manufactured under strictly clean condition and controlled thoroughly from lot to lot, and we proudly guarantee the stable and consistent quality. GeneAll® SV column contains silica membrane that will bind DNA and easily apply to both centrifugation and vacuum protocols. Purification step is so simple, bind-wash-elute, that is all. Under high salt condition, DNA bind to silica membrane and impurities pass through membrane into a collection tube. The membranes are washed with an ethanol-containing buffer to remove any residual of proteins, cellular debris, salts, remnant of agarose, enzymatic reaction components and etc. Finally DNA is released into a clean collection tube with water or low ionic strength buffer.

GeneAll® 2018 / 19 Catalog

Visit www.geneall.com or www.geneall.co.kr for FAQ, Q&A and more information.

GeneAll® Kits Selection Guide

For DNA / RNA Purification System



Selection Guide

For plasmid DNA Purification

Hybrid-Q™ / Exprep™ / Exfection™ Series

GeneAll® Plasmid DNA Purification Systems utilize glass microfiber membranes based on the modified alkaline lysis method. Hybrid-Q™ Plasmid Rapidprep with new patented EzClear™ Filter provides the alternative methods for standard or rapid preparation of plasmid DNA depending on plasmid copy number, host strain, culture medium and culture volume.

Exfection™ Plasmid LE (Low Endotoxin) and EF (Endotoxin-Free) provide simple and fast method for the purification of plasmid DNA with low endotoxin contaminants. Endotoxins present in the cell membrane of gram-negative bacteria are common contaminants in plasmid preparations and can significantly reduce transfection efficiencies. Exfection™ series can be used for the transfection of most cell lines through the removal of endotoxins: advanced phase separation and endotoxin removal washing.

		Small Scale			Large Scale ***		
	Hybrid-Q™ Plasmid Rapidprep *	Exprep™ Plasmid SV mini	Exfection™ Plasmid LE mini (Low Endotoxin)	Exprep™ Plasmid SV Midi	Exfection™ Plasmid LE Midi (Low Endotoxin)	Exfection™ Plasmid EF Midi (Endotoxin Free) **
Specifications						
Format	Spin	Spin / Vacuum	Spin / Vacuum	Spin / Vacuum	Spin / Vacuum	Spin
Recommended sample volume	~ 5 ml	~ 5 ml	~ 5 ml	~ 50 ml	~ 50 ml	~ 100 ml
Maximum sample volume	10 ml	10 ml	10 ml	100 ml	100 ml	150 ml
Clearing of lysate	EzClear™	Centrifuge	Centrifuge	EzClear™	EzClear™	EzClear™
Preparation time	< 10 min	< 23 min	< 30 min	< 50 min	< 50 min	< 70 min
Maximum loading volume	600 μℓ	800 μℓ	800 μℓ	15 ml	15 ml	15 ml
Binding capacity	30 μg	30 μg	30 μg	300 μg	300 μg	300 μg
The level of endotoxin	-	-	< 10 EU / μg	-	< 10 EU / μg	< 0.1 EU / μg
Recovery	85 ~ 95%	85 ~ 95%	80 ~ 95%	80 ~ 95%	85 ~ 95%	75 ~ 90%
Minimum elution volume	40 μℓ	40 μℓ	50 μℓ	500 μℓ	500 μℓ	500 μℓ
Applications						
Endotoxin free	-	-	-	-	-	■
Cell transfection	□	□	■	□	■	■
in vitro Transcription	■	■	■	■	■	■
Cloning	■	■	■	■	■	■
Automatic sequencing	■	■	■	■	■	■
PCR	■	■	■	■	■	■
Restriction digestion	■	■	■	■	■	■
Transformation	■	■	■	■	■	■

■ *Recommended* / □ *Recomended with additional preparation step*

** Hybrid-Q™ Plasmid Rapidprep provides the alternative protocols upon plasmid copy number, host strain, culture medium, and culture volume.*
*** Exfection™ EF kit is suitable for the transfection of primary or sensitive cells.*
**** GeneAll® SV Midi / MAXI kits require the centrifuge which has a swing-bucket rotor and ability of 4,000 x g at least.*

Hybrid-Q™ Plasmid Rapidprep

For the rapid purification of high / low-copy plasmid DNA

Description

Hybrid-Q™ Plasmid Rapidprep kit provides two methods for easy and rapid preparation of plasmid DNA from the mini scale bacterial cells. Plasmid DNA can be prepared from up to 10 ml of overnight culture by conventional miniprep method with standard protocol. Alternatively, up to 3 ml of sample can be processed by rapid protocol in just 10 min with new patented EzClear™ Filter and simultaneous processing of multiple samples can be easily performed.
Up to 30 μg of pure plasmid can be purified using Hybrid-Q™ Plasmid Rapidprep kit and this pure plasmid DNA is ready for PCR, cloning, fluorescent sequencing, synthesis of labeled hybridization probes, cell transfection, electroporation and enzymatic restriction analysis without further manipulation.

Features and Benefits

- Spin column format
- Rapid purification with EzClear™ Filter : complete in just 10 min
- Stable and consistent result
- 30 μg of binding capacity and high purity
- Compatible with *endA*$^+$ strains
- No use of organic solvents
- Ready for use in fluorescent sequencing, cloning, hybridization, electroporation and other enzymatic manipulation

Hybrid-Q™ Plasmid Rapidprep

Format : Column Type Q (mini), (with 2.0 ml collection tube)
+ EzClear™ Filter (mini), (with 2.0 ml collection tube)

Sample volume (High copy) : 2 ~ 5 ml LB

Max. sample volume (Low copy) : 10 ml LB

Max. loading volume of EzClear™ Filter : 600 μℓ

Max. loading volume of spin column : 800 μℓ

Binding capacity : 30 μg

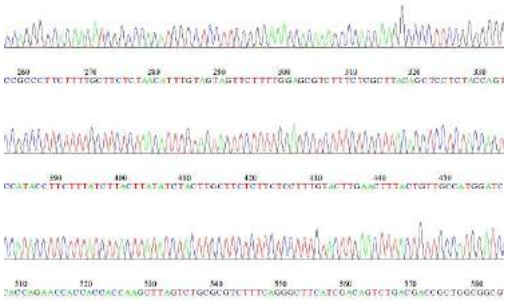
Recovery rate : 85 ~ 95%

Min. elution volume : 40 μℓ

EzClear™ Filter
New patented EzClear™ Filter facilitates the clearance of the lysate by filtration instead of tedious centrifugation which has been used widely in traditional methods.
In the rapid protocol, EzClear™ Filter is assembled with GeneAll® spin column, and this column stack makes it one-step the clearance of lysate and the binding of plasmid DNA to spin column membrane.

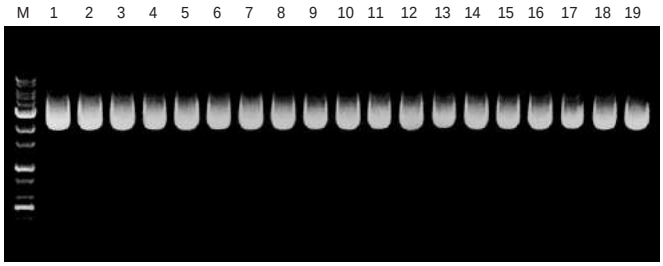
Cat. No.	Products	Type	Size
100-150	Hybrid-Q™ Plasmid Rapidprep	mini / spin	50
100-102	Hybrid-Q™ Plasmid Rapidprep	mini / spin	200

DNA Automated Sequencing Analysis



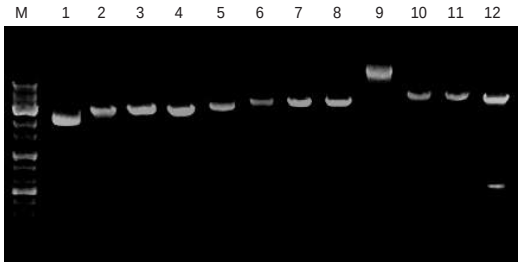
Plasmid DNA prepared using Hybrid-Q™ delivers long and accurate (> 99% at 700 bp) reads.
* Sequencing analysis was performed on an ABI Prism™, model 377, version 3.2 sequencer

Stable and Reproducible Result



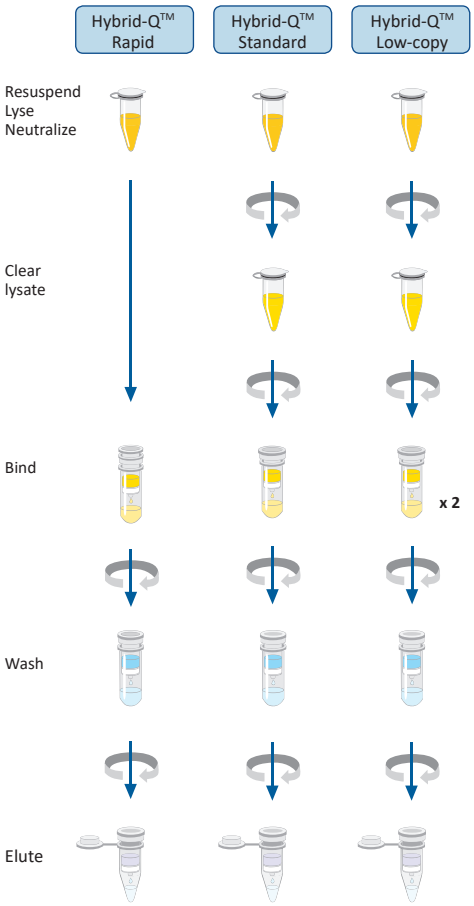
Plasmid DNA isolated from overnight cultures of pUC18-transformed DH5α using Hybrid-Q™.
Each lane represents 4 μℓ of purified supercoiled plasmid out of 50 μℓ of eluates.
Lane M : 1 Kb ladder

Compatibility Test with Restriction Enzymes



Several kinds of plasmid DNA purified with Hybrid-Q™ subjected to digestion by restriction enzyme.
Lane M : 1 Kb ladder
Lane 1 : pUC18, host DH10B
Lane 2 : pUC18, host DH10B, digested with EcoRI
Lane 3 : pUC18, host DH10B, digested with HindIII
Lane 4 : pUC18, host DH10B, digested with SmaI
Lane 5 : pQE30, host BL21
Lane 6 : pQE30, host BL21, digested with EcoRI
Lane 7 : pQE30, host BL21, digested with SalI
Lane 8 : pQE30, host BL21, digested with SmaI
Lane 9 : pACYC184, host JM109
Lane 10 : pACYC184, host JM109, digested with EcoRI
Lane 11 : pACYC184, host JM109, digested with NcoI
Lane 12 : pACYC184, host JM109, digested with PvuII

Procedures



Component list
Column Type Q (with collection tube)
EzClear™ Filter (with collection tube)
Buffer S1
Buffer S2
Buffer G3
Buffer AW
Buffer PW
Buffer EB
RNase A (20 mg / ml)
Protocol Handbook

Exprep™ Plasmid SV

For the purification of plasmid DNA

Description

Exprep™ Plasmid SV DNA Purification kit provides a rapid and convenient method for the small and medium scale preparations of plasmid DNA from bacterial cells and it is used to isolate and purify any plasmids from any *E. coli* strains. Exprep™ Plasmid SV eliminates the need of organic solvent extraction and alcohol precipitation, allowing rapid and convenient preparation from many samples simultaneously. Exprep™ Plasmid SV kit can yield up to 30 μg (mini) of highly purified plasmid DNA and it can be applicable directly for PCR, cloning, automated sequencing, synthesis of labeled hybridization probes and other enzymatic reactions without further manipulation.

Features and Benefits

- Spin or vacuum column format
- Stable and consistent result
- Fast and simple procedure : complete in 25 minutes
- High purity : A_{260} / A_{280} = 1.8 ~ 2.0
- Compatible with *endA*$^{+}$ strains
- No use of organic solvents
- Ready for use in enzymatic manipulation and automated sequencing

Exprep™ Plasmid SV mini

Format : Column Type Q (mini), (with 2.0 ml collection tube)

Sample volume : 2 ~ 10 ml LB

Preparation time : 23 min

Typical yield : 10 ~ 30 μg

Elution volume : 40 ~ 200 μℓ

Midi

Format : Column Type Q (Midi), (with 50 ml collection tube)

Sample volume : 50 ~ 100 ml LB

Preparation time : 50 min

Typical yield : 100 ~ 300 μg

Elution volume : 400 ~ 2000 μℓ

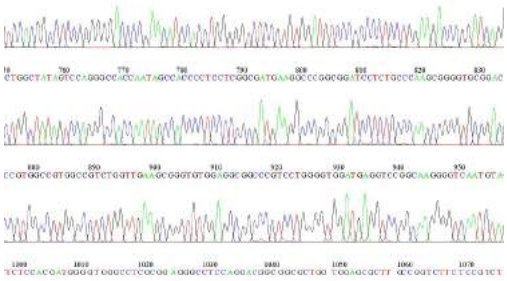
MixVu™

Complete mixing is important for successful alkaline lysis. As the volume of lysate grows in large scale preparation such as midi or maxi, a partial variation of pH in lysate can be taken place. It is due to high viscosity of lysate and leads to incomplete mixing, followed by inefficient cell lysis and poor yields. Use of MixVu™ would prevent this handling error, and help prepare the plasmid successfully. MixVu™ added Buffer S1 / P1 is colorless. After the addition of Buffer S2 / P2, the color will turn blue as mixing. Whole blue of the lysate ensures that the lysate is at alkaline pH. And the lysate will be colorless after the addition of Buffer G3 / P3. The lysate should be mixed until it became thoroughly colorless to ensure complete neutralization.

Cat. No.	Products	Type	Size
101-150	Exprep™ Plasmid SV	mini / spin / vacuum	50
101-102	Exprep™ Plasmid SV	mini / spin / vacuum	200
101-226	Exprep™ Plasmid SV	Midi / spin / vacuum	26
101-201	Exprep™ Plasmid SV	Midi / spin / vacuum	100

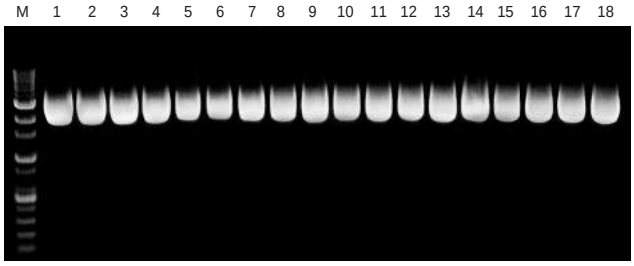
** Midi kit contains indicator "MixVu™" for successful alkaline lysis.*

DNA Automated Sequencing Analysis



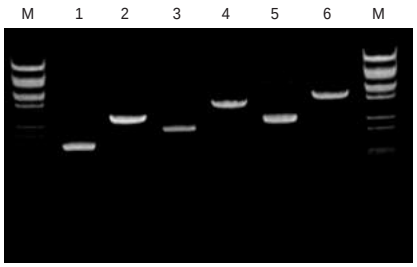
Plasmid DNA prepared using Exprep™ Plasmid SV kit delivers long, accurate (> 99% at 700 bp) reads.
* Sequencing analysis was performed on an ABI Prism™, model 377, version 3.2 sequencer

Stable and Reproducible Result



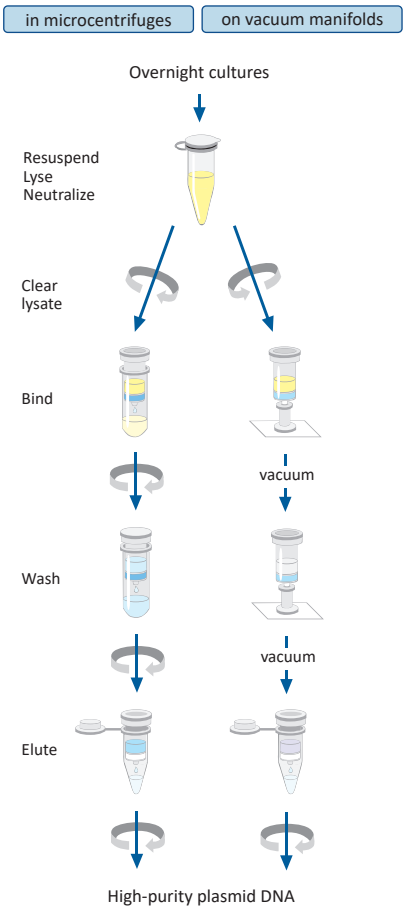
Plasmid DNA was isolated from overnight cultures of pUC18-transformed DH10B cells using Exprep™ Plasmid SV kit. Each lane represents 4 μℓ of purified supercoiled plasmid DNA out of 50 μℓ of eluates.
Lane M : 1 kb ladder

Compatibility Test with Restriction Enzymes



Several kinds of plasmid DNA purified with Exprep™ Plasmid SV kit were subjected to digestion by restriction enzyme.
Lane M : Lambda-BatPI
Lane 1 : pUC18, host INVaF
Lane 2 : pUC18, host INVaF, digested with XbaI
Lane 3 : pQE30, host JM109
Lane 4 : pQE30, host JM109, digested with SmaI
Lane 5 : pBluescript II SK (+), host XL1 blue
Lane 6 : pBluescript II SK (+), host XL1 blue, digested with XbaI

Procedures



Component list

Column Type Q (with collection tube)
Collection tube (Midi only)
Buffer S1
Buffer S2
Buffer S3
Buffer AW
Buffer PW
Buffer EB
MixVu™ Solution (Midi only)
RNase A (20 mg / ml)
Protocol Handbook

* **GeneAll®** Midi kits require the centrifuge which has swing bucket rotor and ability of 4,000 x g at least.

Exfection™ Plasmid LE / EF

For the preparations of extremely pure plasmid DNA

Description

Exfection™ plasmid LE (Low Endotoxin) and EF (Endotoxin-Free) provide simple and fast method for the purification of plasmid DNA with low endotoxin contaminants. Endotoxins (also known as lipopolysaccharides, LPS) are present in the cell membrane of gram-negative bacteria, such as *Escherichia coli*. It is a common contaminant in plasmid preparations and can significantly reduce transfection efficiencies, if not removed during DNA preparations. These kits use two methods for the removal of endotoxins : advanced phase separation and endotoxin removal washing. Endotoxin levels can be reduced to 0.1 EU / μg with Exfection™ EF and to 10 EU / μg with Exfection™ LE.

Prepared plasmid DNA can be used for the transfection of most of cell lines in addition to most of molecular biological applications.

Features and Benefits

- Spin column format based on glassfiber membrane
- Convenient clearing of lysate with EzClear™ Filter (Midi)
- High plasmid recoveries with high purity
- Fast preparation time and simple procedure
- High transfection efficiency in most cell-lines
- No use of organic solvents

Exfection™ Plasmid LE mini

Format : Column Type Qe (mini), (with 2.0 ml collection tube)

Sample volume : 5 ~ 10 ml LB

Lysate clearing : Centrifugation

Preparation time : < 30 min

Binding capacity : 30 μg

Endotoxin levels : < 10 EU / μg

Min. elution volume : 50 μℓ

LE Midi

Format : Column Type E (Midi), (with 50 ml collection tube)

Sample volume : 5 ~ 100 ml LB

Lysate clearing : EzClear™ Filter (Midi)

Preparation time : < 50 min

Binding capacity : 300 μg

Endotoxin levels : < 10 EU / μg

Min. elution volume : 500 μℓ

EF Midi

Format : Column Type E (Midi), (with 50 ml collection tube)

Sample volume : 30 ~ 150 ml LB

Lysate clearing : EzClear™ Filter (Midi)

Preparation time : < 70 min

Binding capacity : 300 μg

Endotoxin levels : < 0.1 EU / μg

Min. elution volume : 500 μℓ

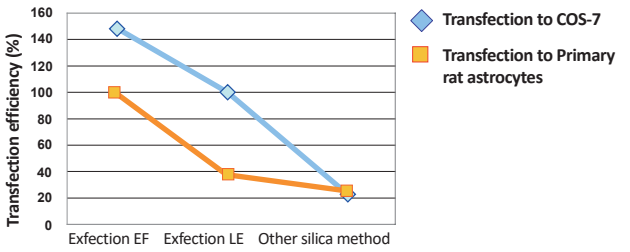
Applications : Cell transfection of most cell lines
Enzymatic modifications
Library construction
in vitro transcription / translation
High quality sequencing
Cloning
Most molecular biological experiments

In addition to LE series;
Cell transfection of primary, sensitive and / or suspension cell lines
Gene silencing
Microinjection

Cat. No.	Products	Type	Size
111-150	Exfection™ Plasmid LE	mini / spin / vacuum	50
111-102	Exfection™ Plasmid LE	mini / spin / vacuum	200
111-226	Exfection™ Plasmid LE	Midi / spin / vacuum	26
111-201	Exfection™ Plasmid LE	Midi / spin / vacuum	100
121-220	Exfection™ Plasmid EF	Midi / spin	20
121-201	Exfection™ Plasmid EF	Midi / spin	100

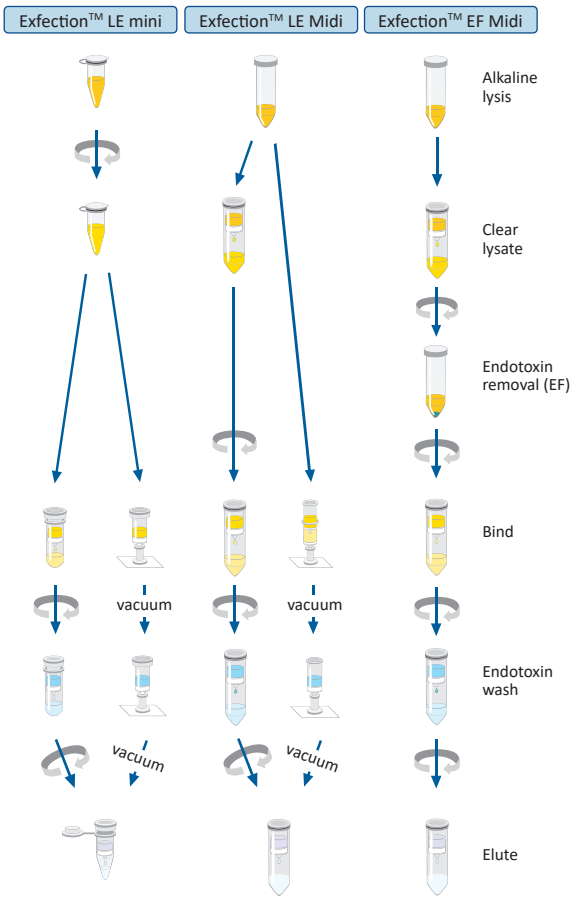
** Midi kit contains indicator "MixVu™" for successful alkaline lysis.*

Transfection Efficiency



pGEFP-N3 prepared by the methods indicated were transfected to COS-7 (◆) and primary rat hippocampal astrocytes (■) by liposomal method. Transfection efficiencies were determined by scoring the number of green fluorescent cells 48 hours post transfection. Average transfection efficiencies are expressed as percentages relative to the efficiency obtained with DNA prepared using Exfection LE (100%) for COS-7 and Exfection™ EF (100%) for primary cells, respectively.

Procedures



Component list

Column Type Qe / E (with collection tube)
EzClear™ Filter (with collection tube), (Midi only)
Collection tube (Midi only)
Buffer P1
Buffer P2
Buffer G3 / P3
Buffer EW1
Buffer EW2
Buffer ER (EF only)
Buffer EG (EF only)
Buffer EF
MixVu™ Solution (Midi only)
RNase A (20 mg / ml)
Protocol Handbook

* **GeneAll**® Midi kits require the centrifuge which has a swing-bucket rotor and ability of 4,000 x g at least.

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Customer & Technical Support
Do not hesitate to ask us any question.
We thank you for any comment or advice.