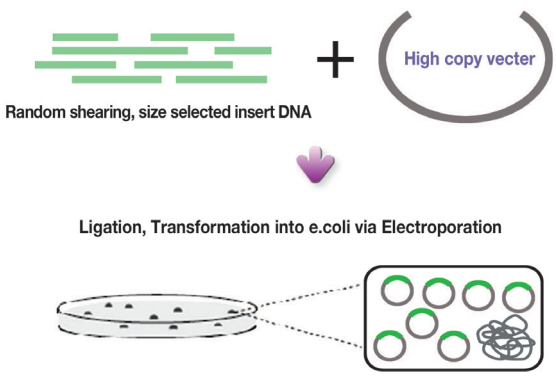
Shotgun Library Construction

Description

After random shearing, we produce Shotgun library with more than proper titer by obtaining the insert size (1.5–10kb) desired by customers. After identifying the completed library quality, the result report is delivered. The library is provided a cell stock or DNA upon customer's request.

Fosmid Library Construction Process



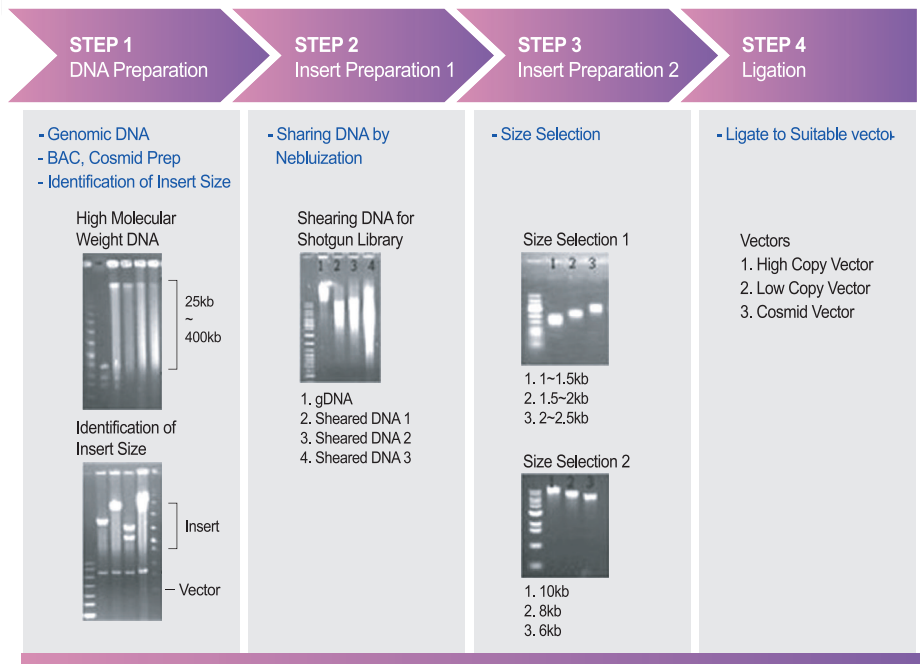
Features

- DNA Sources : Plant, Bacteria, Virus, Bacteriophage, BAC/Cosmid/Fosmid DNA
- Library Sources : Insert Preparation(Random Shearing)
- Insert Size : 1.5~10kb Insert Plasmid Library(Typically 2~5kb)
- Vector : High Copy Number Vector or Low Copy Number Vector
- Library Format : Cell Stock or DNA
- Required Time : 4 Weeks after Sample Quality Identification

Result

- Library Report : Insert Size Check(Average Insert Size〉1kb), Insert Ratio(95%〉), TEST Sequencing Result
- Library Type : Cells Stock(96 or 384 Well Plate) or DNA

Shotgun Library Construction Process



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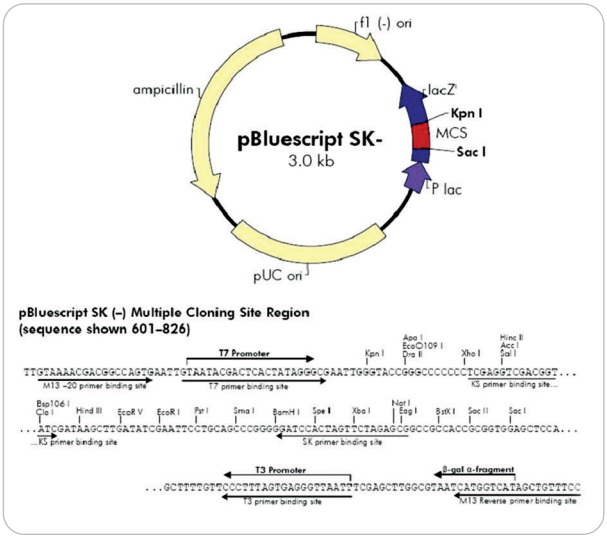
cDNA Library Construction

Description

We produce cDNA library by synthesizing cDNA from Cytoplasmid RNA and using ds cDNA obtained via size fraction.



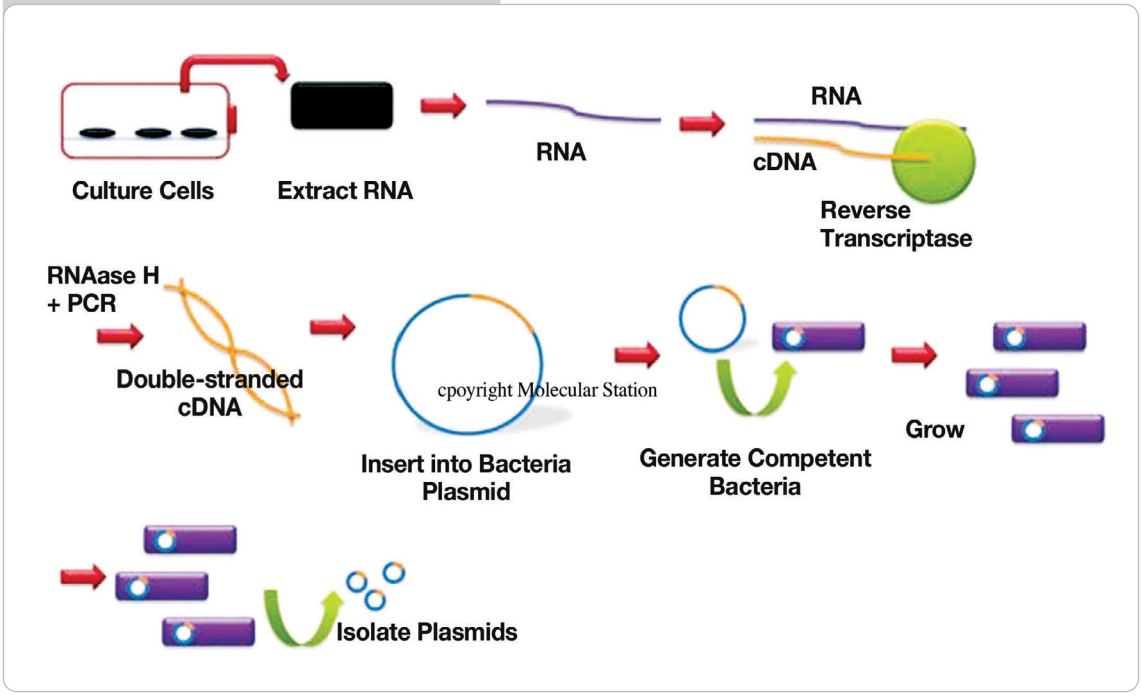
Features

- RNA Sources : Mammalian, Plant
- Format : Standard cDNA Library
- Average Insert Size : 1.5~2.5kb
- Insert Size Range : 0.5~4.5kb
- Total Number of Primary Clones : $1.0X10^7$
- Time Required : 4~5 Weeks after Sample Quality Identification

Result

- Library Report : Average Insert Size Check, Insert Size Range Check, TEST Analysis– Redundancy Check and Blast Servic
- Library Type : Phagemid , Cell Stock or DNA
- Analysis Report : Blast Service, Others

Flowchart of cDNA Library Construction

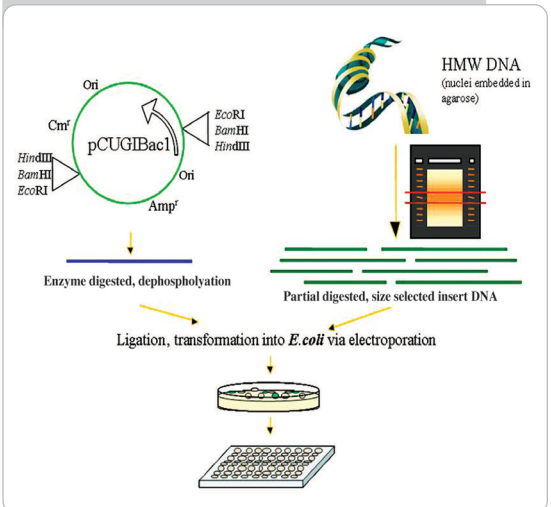


BAC Library Construction

Description

We produce the library more than proper titer by cloning high molecular DNA using the BAC vector after carrying partial digestion with the restriction enzyme (EcoRI, BamHI, HindIII). The quality of the library is identified by performing NotI digestion & PFGE gel electrophoresis analysis (~200clones), then the analysis data is provided with the result report. The library is provided as a cell stock or DNA upon customer's request.

Flowchart of BAC Library Construction



Features

- DNA Sources : Mammalian, Plant, Insect, Bacteria, Virus, Bacteriophage
- Library Sources : Insert Preparation – Partial Digestion
- Insert Size : 120kb~300kb(Average Insert Size : ~130kb)
- Vector : plndigoBAC536
- Library Format : Cell Stock or DNA
- Time Required : 8 Weeks after Sample Quality Identification

Result

- Library Report : Insert-Size Check Report, Insert Ratio (90%〉)
- Library Type : Cell Stock or DNA

BAC Library Construction Process

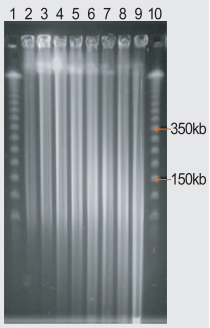
STEP 1 Plug Preparaltion

- HMW(High Molecular Weight) DNA Prep.
- Plug Quality check by CompleteDigestion

1. Uncut 1/2 Plug
2. *Bam*HI cut
3. *Eco*RI cut
4. *Hind*III cut
5. Size Marker

STEP 2 Insert Preparaltion 1

- Pilot Partial digestion by Restriction Enzyme

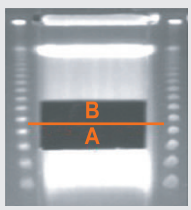


1~10. Size Marker (50kb~1Mb)
2. 0U of *Hind*III treated Plug
3. 1U of *Hind*III treated Plug
4. 2U of *Hind*III treated Plug
5. 4U of *Hind*III treated Plug
6. 6U of *Hind*III treated Plug
7. 8U of *Hind*III treated Plug
8. 10U of *Hind*III treated Plug
9. 60U of *Hind*III treated Plug

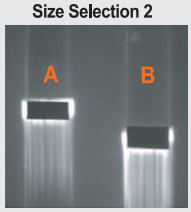
STEP 3 Insert Preparaltion 2

- Size Selection

Size Selection 1



Size Selection 2



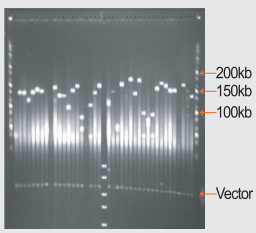
A : 150~250 kb
B : 250~350kb

STEP 4 Ligation & Transformation

- Ligate to BAC Vector (pindgoBAC536)
- Transformation by DH10B T1 Resistant Competent Cell

STEP 5 Insert Size Check

- BAC Plasmid DNA Preparation
- *Not*I Digestion



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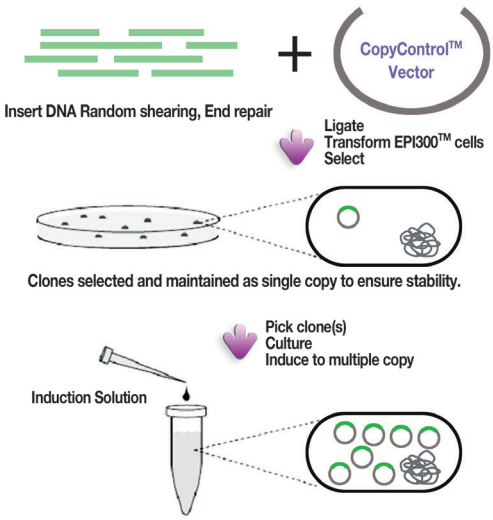
Fosmid Library Construction

Description

After random shearing, we produce Fosmid library with the proper number of clone (Cfu or Pfu) via transfection after 35–45 kb Insert. The quality of complete library is identified using various methods and the obtained result is delivered. The library is provided as a cell stock or DNA upon customer's request.

Flowchart of Fosmid Library Construction



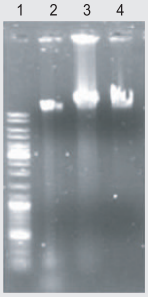
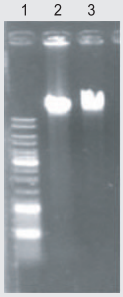
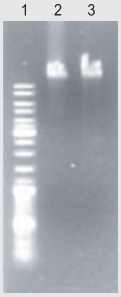
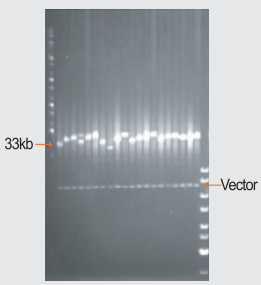
Features

- DNA Sources : Mammalian, Plant, Bacteria
- Library Sources : Insert Preparation (Random Shearing)
- Insert Size : 25~35 kb(Average Insert Size : 35kb)
- Library Format : Cell Stock or DNA
- Time Required : 4 Weeks after Sample Quality Identification

Result

- Library Report : Insert-Size Check Report, Insert Ratio(95%〉)
- Library Type : Cell Stock(96 or 384well plate) or DNA

Fosmid Library Construction Process

STEP 1 Plug Preparaltion	STEP 2 Insert Preparaltion 1	STEP 3 Insert Preparaltion 2	STEP 4 Ligation	STEP 5 Insert Size Check
- Gemomic DNA Prep - Quality check	- Random Shearing DNA	- Size Selection	- Ligate to Suitable Vector, Packaging and Infection	- Fosmid or Cosmid DNA Preparation - *Not*I Digestion
High Molecular Weight DNA 1 2 3 4  1. Size Marker 2. Genomic DNA1 3. Genomic DNA2 4. 33kb Control DNA	**Shearing DNA for Fosmid or Cosmid Library** 1 2 3  1. Size Marker(100bp~10kb) 2. Shearing DNA 3. 33kb Control DNA	**Size Selection 1** 1 2 3  1. Size Marker(100bp~10kb) 2. Gel Eluted Insert DNA 3. 40kb Control DNA	1. Ligation to Fosmid Vector 2. Packcge in vitro into Bacteioghage Lambda Particles 3. Infect E.coli and Select for AmpR or ChlR Colonies	

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End & EST Sequencing

Description

We provide the essential mutant library preparation for protein structure and function study, gene expression study, and Promotor Change.

Features

- DNA Sources : BAC Library, Fosmid Library, cDNA Library
- Time Required : 4~6 Weeks after Sample Quality Identification

Result

- End Sequencing Report / End Sequence Raw Data(ab1 File) / Blast Result, Gene Ontology Report(cDNA Library Only) Redundancy(cDNA Library Only) / DNA(cDNA Library Only) / Cell Stock

Shotgun Library Construction & Full Length Sequencing

Description

We produce shotgun library construction and deliver the final result by assembling the result.

Features

- Shotgun Library Construction
- Sequencing by a DNA Analyzer 3730xl
- Read Length more than 700bp(Phred Score 〉20)
- Assembly Using the Phred-Phrap
- Gap Filling
- Time Required : 5 Weeks after Sample Quality Identification

Result

- Library Report, Assembly Report, Sequencing Raw Data (Ab1 File), Contig Sequence and Contig Quality Check

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Other Service

Cell stock production

We produce Cell stock by carrying cell culture in mass production upon customer's request.

DNA Extraction

We perform DNA extraction in mass production service from cell culture to DNA preparation upon customer's request. (Extra charge will be added if sequencing processed additionally.)

- Required Information– Antibiotics Used, Antibiotic Concentration
- Plasmid Type : BAC, Fosmid, Cosmid, Normal Plasmid, cDNA etc

PCR product purification

We provide purification service for sequencing when you send us crude PCR product. The provided sample should be 50~100ng/㎕ of concentration and more than 20㎕ of volume.

Agarose Gel Extraction

We perform DNA extraction service by selecting the target-sized product among various size PCR products desired by customers.

PCR Service

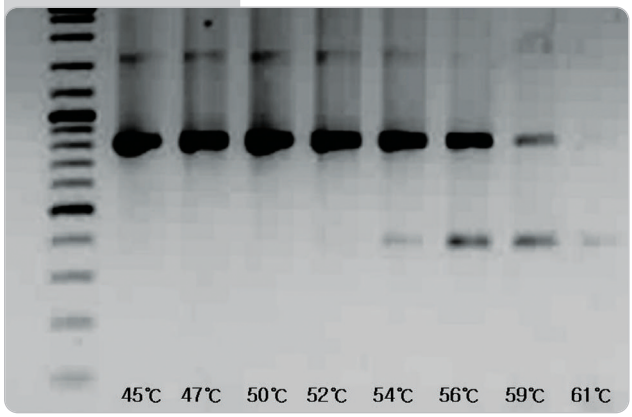
We perform PCR service with the template and the primer given by a customer. (We also provide primer synthesis service)

- Required information–PCR condition, Primer Tm value, Predicted product size, primer concentration, template concentration.(Extra expense for set up can occur when the PCR condition for is not given.)

PCR optimization Service

For your convenience, we find the optimized annealing temperature for high quality of PCR products from the gDNA of our customers. Your sequencing result can be better when we perform Gradient PCR on be half of you.

Gradient PCR



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