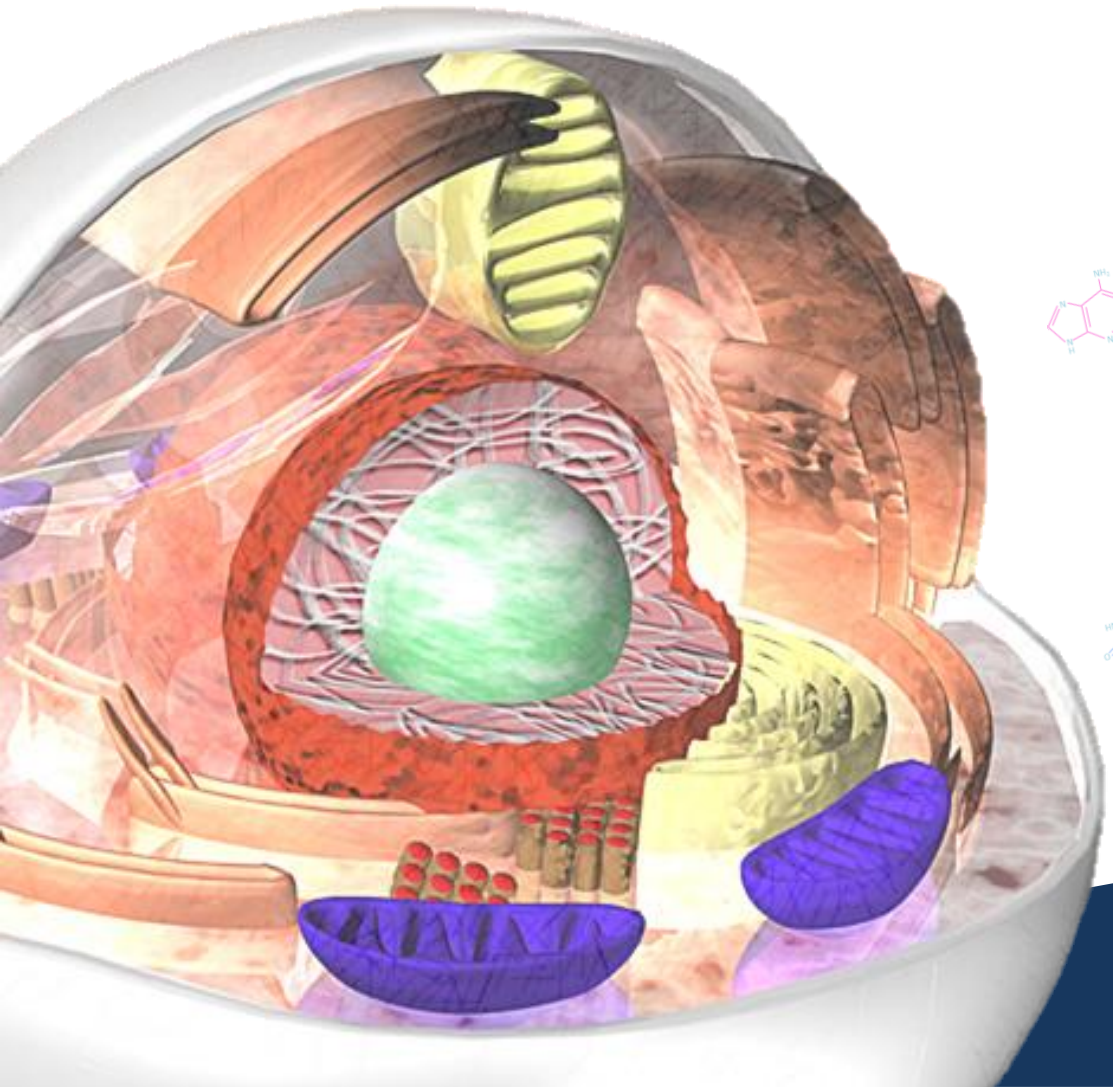
Catalogue

GeneMark

www. genemarkbio.com



Company Profile

BioElegen Tech. Co., Ltd. was founded in 2020 in Taiwan. We provide a variety of molecular biology kits and reagents, including biological and biochemical materials, modified enzymes and nucleic acid products, which all are manufactured ourselves and distributed using our own brand - *GeneMark*.

Strong technology capacities, advanced lab facilities and strict QC processes are our core capabilities. Nowadays, ***"GeneMark"*** is pretty popular in the domestic market for excellent quality, reasonable price and perfect after-sales services.

Our customers are mainly life science researchers who perform a broad range of biological experiments in the laboratories generally associated with universities, medical research centers, government institutes, and other research institutes as well as biotechnology, agricultural, and pharmaceutical companies.

Our vision is to be the most reputable and service-oriented leader in providing innovative solutions and technical support for customers in the life science field. The greatest goal is to achieve and maintain complete customer satisfaction and enhance our competitive force.

Molecular Biology Tools

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GeneMark

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Molecular Biology Kits

Plasmid DNA Purification Kits

- *Spin column format and easy to use*
- *High yield and high purity*
- *Speedy operation procedures*

Product Info

Product	Cat. No.	Sample Volume (ml)	DNA Recovery	Size	Application	Time (min)
Miniprep	DP01	1~10	~60 μg	70 bp~50 kb	General	10~15
Miniprep-II	DP012	1~10	~60 μg	70 bp~50 kb	Remove Endonuclease	10~15
Miniprep-Plus	DP01-Plus	1~10	~60 μg	70 bp~50 kb	Remove Endotoxin, Transfection	10~15
MicroElute Miniprep	DP01ME	1~15	~80 μg	50 bp~150 kb	Remove Endonuclease Remove Endotoxin, Transfection	15~20
MicroElute Midiprep	DP01MED	20~100	~300 μg	50 bp~150 kb	Remove Endonuclease Remove Endotoxin, Transfection	1 hr
Midiprep-Plus	DP01MD-P	50~200	~500 μg	70 bp~50 kb	Remove Endotoxin, Transfection	1 hr
MicroElute Maxiprep	DP01MEX	100~500	500~2000 μg	50 bp~150 kb	Remove Endotoxin, Transfection	2 hrs
Maxiprep-Plus	DP01MX-P	200~800	~15 00 μg	70 bp~50 kb	Remove Endotoxin, Transfection	2 hrs
BAC/PAC	**DPB041-50**					
Yeast Plasmid	**DP01Y-50**	1~10ml	1~40 ug	>50Kb	General	15~20

Molecular Biology Kits

Plasmid Miniprep Purification Kit

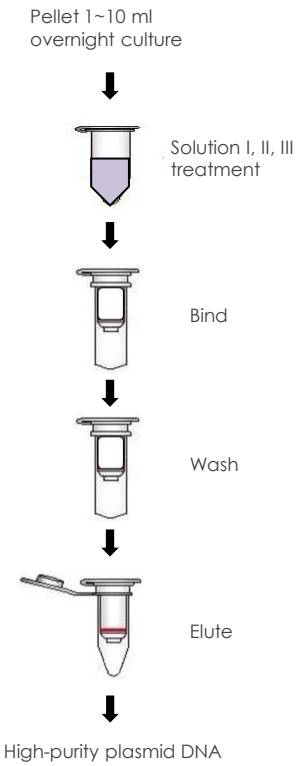
Features

• High yield:
Up to 60 μg plasmid DNA from 1~10 ml bacterial cultures.

• Fast:
The whole process can be done within 10~15 minutes.

• Safe:
Without phenol-chloroform extraction or alcohol/isopropanol precipitation .

• Purity:
The ratio of A_{260} to A_{280} can reach 1.8~2.0.



Description

Plasmid Miniprep Purification Kit contains a unique silica column and a high-efficiency lysis buffer system that can yield up to **60 μg** high purity plasmid DNA from 1 to 10 ml bacterial cultures. High-purity plasmid DNA can be obtained using this kit, without needing to precipitate, concentrate, or desalt.

Application

The buffer system does not affect downstream applications. The purified plasmid DNA can be used for subsequent applications such as PCR, Southern blot, automated fluorescent sequencing, restriction digestion, ligation and transformation.

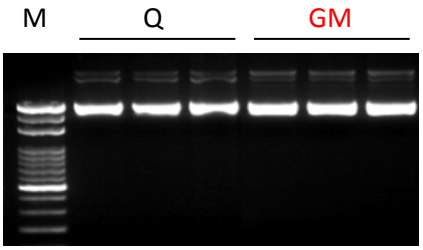
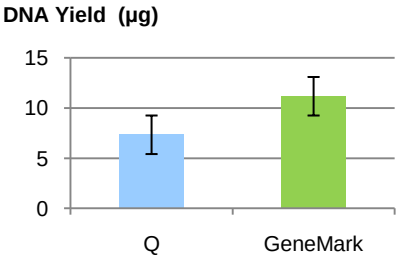


Figure 1. Gel electrophoresis analysis of plasmid DNA purified using plasmid purification kit from GeneMark and supplier Q.
M: Gen100 DNA Ladder
Q: Supplier Q
GM: GeneMark



A260/280	1.83	1.95

Figure 2. Yield and purity measurements of plasmid DNA purified using GeneMark Plasmid Miniprep Kit and plasmid purification kit from supplier Q.
Cultures of pUC18 were aliquoted into three 1.5 ml tubes for test with GeneMark Plasmid Purification Kit and related kit from supplier Q separately. Data on O.D. measurements are the average of three preperations. Average yield was calculated from absorbance at 260 nm. Average purity was calculated by absorbance at 260 nm/280 nm.

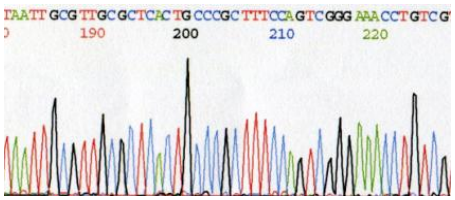


Figure 3. Sequencing of plasmid DNA purified using GeneMark Plasmid Purification Kit.
The clear and sharp signals of data indicate that reagents supplied in this kit do not affect downstream applications.

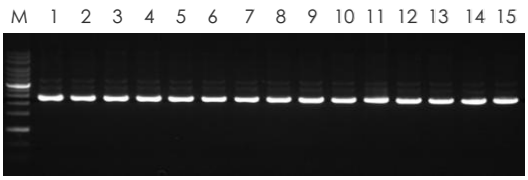


Figure 4. Gel electrophoresis analysis of pUC18 plasmid DNA (2.6 kb) purified using 15 randomly chosen spin columns.
M: GenKB DNA Ladder
1~15: pUC18 plasmid DNA

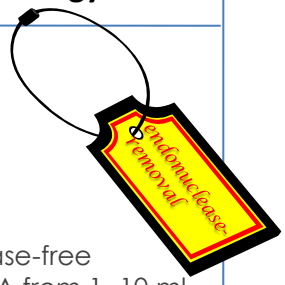
Ordering Info

DESCRIPTION	Cat.No.	REACTION
Plasmid Miniprep Purification Kit	DP01	50
Plasmid Miniprep Purification Kit	DP01-300	300

Molecular Biology Kits

Plasmid Miniprep Purification Kit II

Features

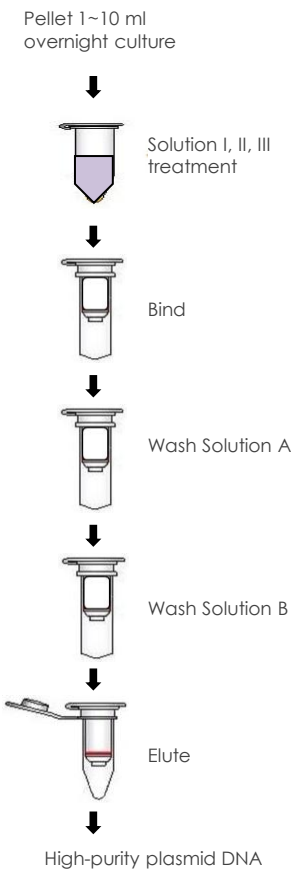


• High yield:
Up to 60 μg Endonuclease-free plasmid DNA from 1~10 ml bacterial cultures.

• Fast:
The whole process can be done within 10~15 minutes.

• Safe :
Without phenol-chloroform extraction or alcohol/isopropanol precipitation.

• High purity:
The ratio of A_{260} to A_{280} can reach 1.8~2.0.



Description

Plasmid Miniprep Purification Kit II is designed especially for endonuclease-rich bacteria strains (End A(+)) such as BL21(DE3), HB101 and JM109. It contains **endonuclease-removal reagent**, which eliminates endonuclease to protect plasmid DNA from degradation. Using the unique silica column and a high-efficiency lysis buffer system, this kit can yield up to **60 μg** high purity plasmid DNA from 1 to 10 ml bacterial cultures, without needing to precipitate, concentrate, or desalt.

Application

The buffer system does not affect the downstream applications. The purified plasmid DNA can be used for subsequent applications such as PCR, Southern blot, automated fluorescent sequencing (including capillary sequencing and radioactive sequencing), restriction digestion, ligation and transformation.

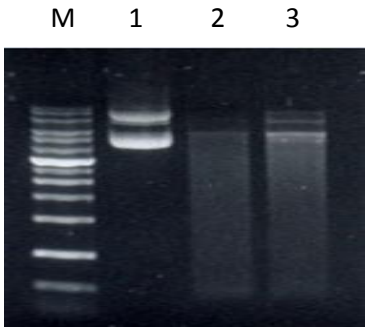


Figure 1. Gel electrophoresis analysis of mini-preparation of pET29 recombinant in BL21 (DE3) with three trademark kits.
After elution, add *Hind* III reaction buffer to final 1X concentration, incubate at 37℃ for 2 hours.

M: GenKB DNA Ladder
Lane 1: Purified using GeneMark Plasmid Miniprep Purification Kit II
Lane 2: Using related product from supplier A
Lane 3: Using related product from supplier B

Ordering Info

DESCRIPTION	Cat.No.	REACTION
Plasmid Miniprep Purification Kit II	DP012	50
Plasmid Miniprep Purification Kit II	DP012-300	300

Molecular Biology Kits

Plasmid Miniprep Plus Purification Kit

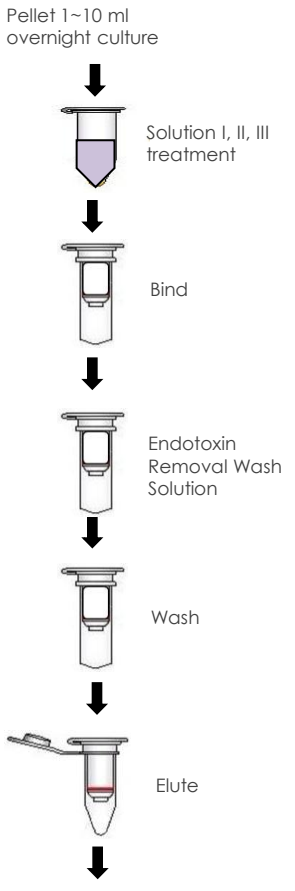
Features

•High yield:
Up to 60 µg endotoxin-free plasmid DNA from 1~10 ml bacterial cultures.

•Fast:
The whole process can be done within 10~15 minutes.

•Safe:
Without phenol-chloroform extraction or alcohol/isopropanol precipitation.

•High purity:
The ratio of A_{260} to A_{280} can reach 1.8~2.0, and the endotoxins are removed effectively from samples.



Description

Plasmid Miniprep Plus Purification Kit contains a unique spin column and a high-efficiency lysis buffer system that can yield up to **60 µg** high purity plasmid DNA from 1 to 10 ml bacterial cultures. This Miniprep Plus Kit **contains endotoxin-removal reagent** to wash off bacterial endotoxins and thus purified plasmid DNA is suitable for transfection experiments.

Application

The buffers in DP01-Plus do not affect downstream applications. The purified plasmid DNA can be used for subsequent applications such as PCR, Southern blot, automated fluorescent sequencing (including capillary sequencing and radioactive sequencing), restriction digestion, ligation, transformation and transfection.

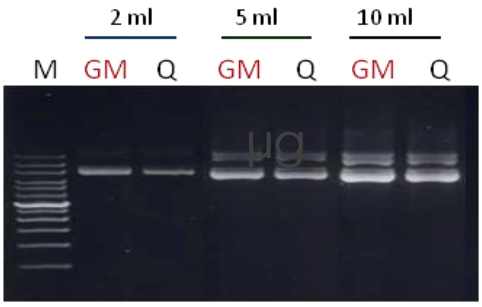


Figure 1. Gel electrophoresis analysis of plasmid DNA isolated using GeneMark Plasmid Miniprep Plus Purification Kit and related kit from supplier Q.
M: Gen100 DNA Ladder
Q: Supplier Q
GM: GeneMark

Transfection-grade

Ordering Info

DESCRIPTION	Cat.No.	REACTION
Plasmid Miniprep Plus Purification Kit	DP01-Plus	50
Plasmid Miniprep Plus Purification Kit	DP01-Plus-300	300

MicroElute Plasmid Miniprep Kit

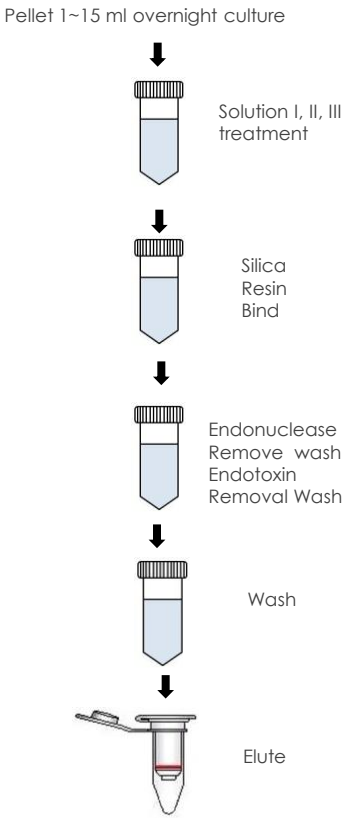
Features

• Easy to use:
Silica Resin binding format.

• High purity:
The ratio of A_{260} to A_{280} can reach 1.8~2.0, they are apply in test of transformation or transfection.

• High recovery:
Each reaction can obtain **5~80 µg** ultra pure plasmid DNA (up to 150 kb) from1~15 ml culture.

• Fast:
The procedures can be done within 10 ~ 15 minutes.



Description

MicroElute Plasmid Miniprep Kit contains a DNA binding **silica resin** and a high-efficiency lysis buffer system that can yield up to **80 µg** of high purity plasmid DNA from 1 to 15 ml bacterial cultures. The buffer system removes both endotoxin and endonuclease, therefore, high-purity plasmid DNA purified using this kit is suitable for performing transformation or transfection experiments.

Application

The buffers provided in MicroElute Pasmid Miniprep Kit do not affect downstream applications. The purified plasmid DNA can be used for subsequent applications such as PCR, Southern blot, automated fluorescent sequencing (including capillary sequencing and radioactive sequencing), plasmid-mediated gene silencing, restriction digestion, ligation, transformation, and transfection.

A) 2.6 kb plasmid DNA B) 7.6 kb plasmid DNA C) 10 kb plasmid DNA

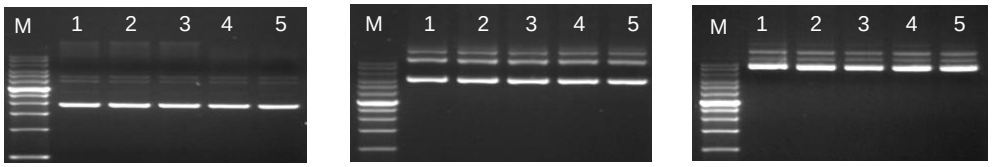


Figure 1. Gel electrophoresis analysis of different sized plasmid DNA purified using MicroElute Plasmid Miniprep Kit.
1 µl Plasmid DNA is loaded onto 1% agarose gel.
Lane 1~5: Plasmid DNA extracted using GM Plasmid Miniprep Kit showed high extraction stability.
M: GenKB DNA Ladder.

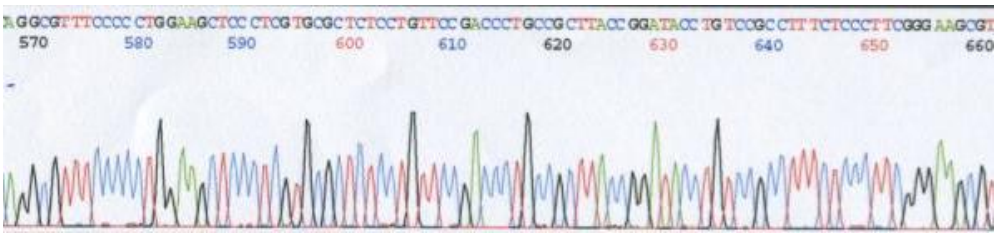


Figure 2. Sequencing data of plasmid DNA purified using MicroElute Plasmid Miniprep Kit.
These sharp sequencing signals indicate that MicroElute Plasmid Miniprep Kit can purify high purity plasmid DNA suitable for downstream experiments.

Ordering Info

DESCRIPTION	Cat.No.	REACTION
MicroElute Plasmid Miniprep Kit	DP01ME	50
MicroElute Plasmid Miniprep Kit	DP01ME-300	300

Molecular Biology Kits

MicroElute Plasmid Midiprep Kit

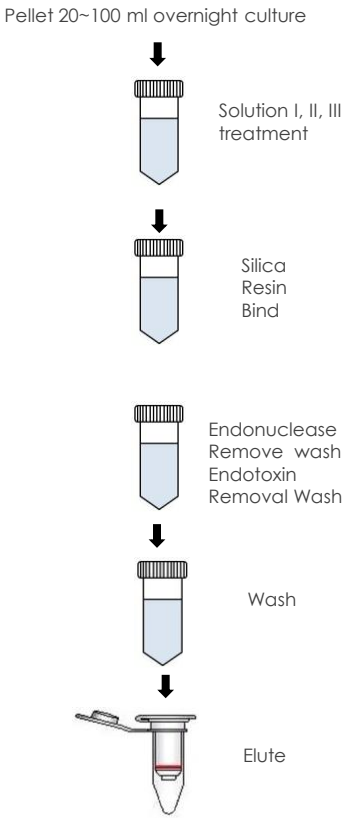
Features

•Yield:
Up to 300 µg plasmid DNA from 20~100 ml bacterial cultures.

•Fast:
Centrifugation format is used in this kit . The whole process can be done within an hour.

•Safe:
Without phenol-chloroform extraction.

•Purity:
The ratio of A_{260} to A_{280} can reach 1.8~2.0 and both endotoxins and endonuclease are removed effectively from samples.

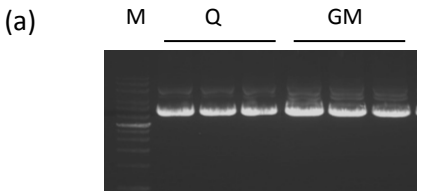


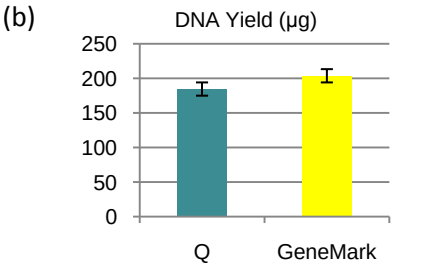
Description

MicroElute Plasmid Midiprep Kit contains a DNA binding **silica resin** and a high-efficiency lysis buffer system that can yield up to 300 µg of high purity plasmid DNA from 20 to 100 ml bacterial cultures. The buffer system removes both endotoxin and endonuclease, therefore, high-purity plasmid DNA purified using this kit is suitable for performing transformation or transfection experiments.

Application

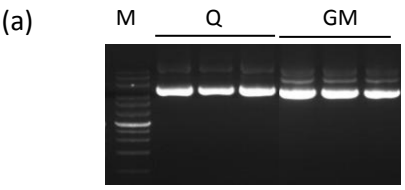
The buffers provided in MicroElute Pasmid Midiprep Kit do not affect downstream applications. The purified plasmid DNA can be used for subsequent applications such as PCR, Southern blot, automated fluorescent sequencing (including capillary sequencing and radioactive sequencing), plasmid-mediated gene silencing, restriction digestion, ligation, transformation, and transfection.

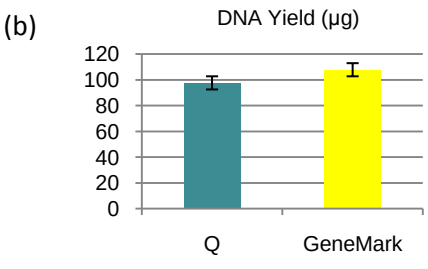




A260/280	1.87	1.91

Figure 1. 6.3 kb plasmid DNA was purified from 40 ml culture using GeneMark MicroElute Plasmid Midiprep kit and related kit from supplier Q.
(a) Gel electrophoresis analysis of plasmid DNA using 0.8% agarose gel.
(b) O.D. Measurement of purified plasmid DNA in wave length 260 nm and 280 nm.
M: GenKB DNA Ladder
Q: Supplier Q
GM: GeneMark





A260/280	1.87	1.89

Figure 2. 10 kb plasmid DNA was purified from 40 ml culture using GeneMark MicroElute Plasmid Midiprep kit and related kit from supplier Q.
(a) Gel electrophoresis analysis of plasmid DNA using 0.8% agarose gel.
(b) O.D. Measurement of purified plasmid DNA in wave length 260 nm and 280 nm.
M: GenKB DNA Ladder
Q: Supplier Q
GM: GeneMark

Transformation & Transfection-grade

Ordering Info

DESCRIPTION	Cat.No.	REACTION
MicroElute Plasmid Midiprep Kit	DP01MED-20	20
MicroElute Plasmid Midiprep Kit	DP01MED-100	100

Molecular Biology Kits

Plasmid Midiprep Plus Purificaton Kit

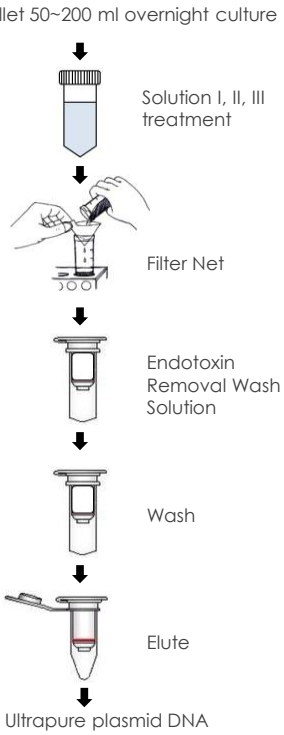
Features

• High yield:
Up to 500 µg endotoxin-free plasmid DNA from 50~200 ml bacterial cultures.

• Fast:
All steps including washing and centrifugation are carried out in a 50 ml tube, and can be done within 1 hour.

• Safe:
Without phenol-chloroform extraction.

• Purity:
The ratio of A_{260} to A_{280} can reach 1.8~2.0, and endotoxin can be removed effectively from samples.

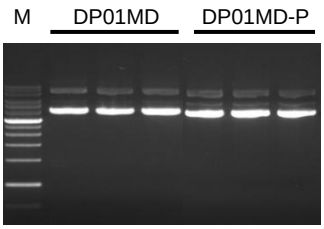


Description

Plasmid Midiprep Plus Purification Kit provides simple and rapid spin-column protocol and materials to purify plasmid DNA from 50~200 ml of liquid bacterial cultures. The yield of plasmid DNA, from 100 µg~500 µg, is quantitative and reproducible. Differ from Plasmid Midiprep Purification Kit, this kit provides 50 ml spin-column for sample treatments.

Application

The buffers supplied in this kit do not affect downstream applications. The purified plasmid DNA can be used for subsequent applications such as PCR, restriction digestion, ligation, Southern blot, automated fluorescent sequencing (including capillary sequencing and radioactive sequencing), plasmid-mediated gene silencing, transformation, and transfection.



	DP01MD	DP01MD-P
Yield (µg)	283.82	486.38
Conc. (ng/µl)	296.33	415
A_{260}/A_{280}	1.89	1.83
A_{260}/A_{230}	2.39	2.29

Figure 1. GeneMark Plasmid Midiprep Purification Kit (DP01MD) and GeneMark Plasmid Midiprep Plus Purification Kit (DP01MD-P) were used to purify Ava24-89 plasmid DNA from 100 ml bacteria culture.

M： Genkb DNA Ladder | **DP01MD**：Plasmid Midiprep Purification Kit | **DP01MD-P**： Plasmid Midiprep Plus Purification Kit

Transfection-grade

Ordering Info

DESCRIPTION	Cat.No.	REACTION
Plasmid Midiprep Plus Purification Kit	DP01MDP-10	10
Plasmid Midiprep Plus Purification Kit	DP01MDP-50	50

MicroElute Plasmid Maxiprep Kit

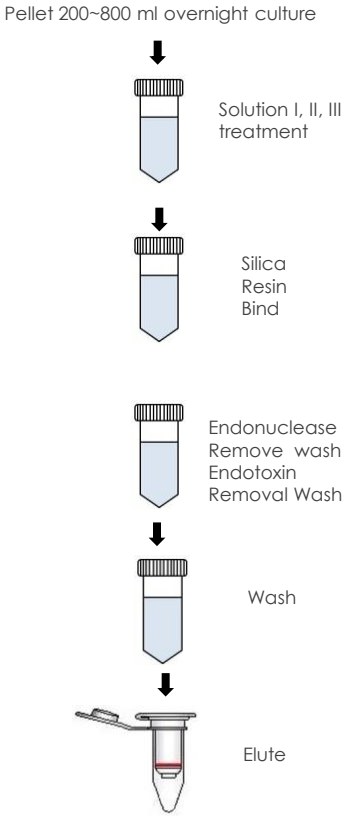
Features

•Yield:
Up to 2000 µg plasmid DNA from 200~800 ml bacterial cultures.

•Fast:
Centrifugation format is used in this kit . The whole process can be done within an hour.

•Safe:
Without phenol-chloroform extraction.

•Purity:
The ratio of A_{260} to A_{280} can reach 1.8~2.0 and endotoxins was removed effectively from samples.

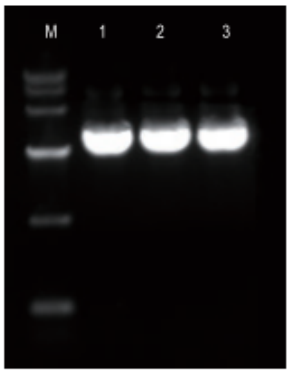


Description

MicroElute Plasmid Maxiprep Kit contains a DNA binding **silica resin** and a high-efficiency lysis buffer system that can yield up to 2000 µg of high purity plasmid DNA from 200 to 800 ml bacterial cultures. The buffer system removes both endotoxin and endonuclease, therefore, high-purity plasmid DNA purified using this kit is suitable for performing transformation or transfection experiments.

Application

The buffers provided in MicroElute Pasmid Maxiprep Kit do not affect downstream applications. The purified plasmid DNA can be used for subsequent applications such as PCR, Southern blot, automated fluorescent sequencing (including capillary sequencing and radioactive sequencing), plasmid-mediated gene silencing, transformation, and transfection.



Plasmid DNA is extracted from 30 mL E.coli (DH5a, pUC19 plasmid) by MicroElute Plasmid Mixiprep Kit (Resin format). Elution volume is 400 µL, sample volume is 2 µL for Agarose gel electrophoresis, Marker volume is 6µL for Agarose gel electrophoresis.

M: 15000 bp Marker
Lane1-3: plasmid DNA

Ordering Info

Transfection-grade

DESCRIPTION	Cat.No.	REACTION
MicroElute Plasmid Maxiprep Kit	DP01MXD-10	10
MicroElute Plasmid Maxiprep Kit	DP01MXD-25	25

Plasmid Maxiprep Plus Purification Kit

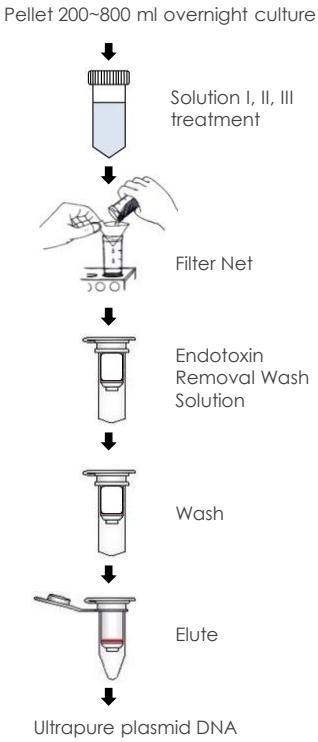
Features

• High yield:
Up to 1.5 mg endotoxin-free plasmid DNA from 200~800 ml bacterial cultures.

• Fast:
All steps including washing and centrifugation are carried out in a 50 ml tube, and can be done within 2 hours.

• Safe:
Without phenol-chloroform extraction or CsCl / ethidium bromide gradient centrifugation.

• Purity:
The ratio of A_{260} to A_{280} can reach 1.8~2.0 and endotoxin can be removed effectively from samples.



Description

Plasmid Maxiprep Plus Purification Kit provides a unique Maxi - column and a high-efficiency lysis buffer system that can yield up to 1.5 mg high purity plasmid DNA from 200 to 800 ml bacterial cultures. The system contains **endotoxin- removal** reagent to eliminate endotoxin. The high-purity plasmid DNA eluted using Plasmid Maxiprep Plus Purification Kit is suitable for performing transfection experiments.

Application

The buffers supplied in this kit do not affect downstream applications. The purified plasmid DNA can be used for subsequent applications such as PCR, restriction digestion, ligation, Southern blot, automated fluorescent sequencing (including capillary sequencing and radioactive sequencing), plasmid-mediated gene silencing, transformation, and transfection.

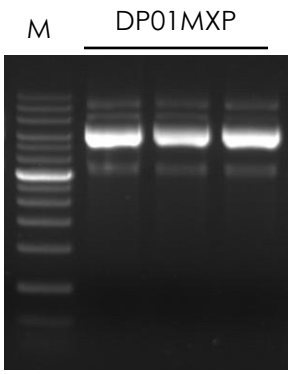


Figure 1. Gel electrophoresis analysis of plasmid DNA purified using Plasmid Maxiprep Plus Purification Kit.
Plasmid was purified from 200 ml culture bacteria. 1 µl of 2 ml eluates were loaded per lane on 0.8% agarose gel.
M : GM1000LC

Transfection-grade

Ordering Info

DESCRIPTION	Cat.No.	REACTION
Plasmid Maxiprep Plus Purification Kit	DP01MXP-10	10
Plasmid Maxiprep Plus Purification Kit	DP01MXP-20	20

Molecular Biology Kits

DNA Clean up/ Gel Extraction Kits

- *Stable, easy to use*
- *Qualified*
- *Better performance*

Product Info

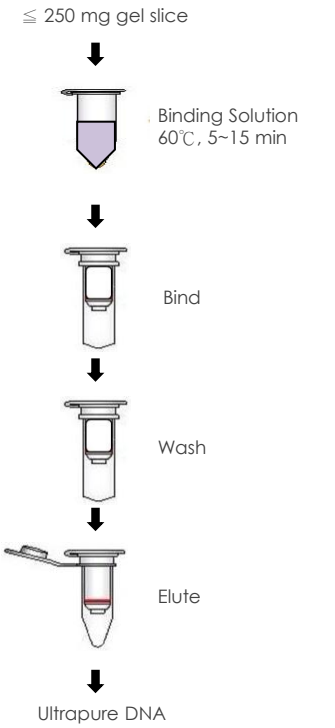
Product	Cat. No.	Elution volume	Binding capacity	Size	Recovery rate
Plus Gel Eluted	DP03P	30~100 µl	20 µg	70 bp~50 kb	60~90%
Plus PCR Clean-up	DP04P	30~100 µl	20 µg	70 bp~50 kb	80~95%
Plus DNA Clean/Extraction	DP034P	30~100 µl	20 µg	70 bp~50 kb	Gel: 60~90% Liquid: 80~95%
Micro-Elute DNA Clean/Extraction	DP034ME	As little as 10 µl	> 20 µg	**50 bp~150 kb**	Gel: >80% Liquid: 80~95%

Plus Gel Eluted Kit

Features

• High capacity and recovery rate:
The DNA binding capacity is up to 20 μg per spin column. 60~90% recovery is achieved, depending on DNA fragment size.

• Fast:
After dissolving the gel slice, the easy bind-wash-elute procedure can be completed within 15 minutes.



Description

The Plus Gel Elution Kit is designed to extract DNA fragments of 70 bp~50 kb from standard or low-melting gels in either Tris acetate (TAE) or Tris borate (TBE) buffer system. The kit uses silica spin-column format and can elute DNA fragments from gel slices up to 250 mg in size. After the easy bind-wash-elute procedure, the recovery rate is 60%~90% depending on the sizes of DNA fragments.

Application

Purified DNA can be used directly for subsequent applications such as cloning, automated fluorescent DNA sequencing, labeling, restriction enzyme digestion or *in vitro* transcription/translation.

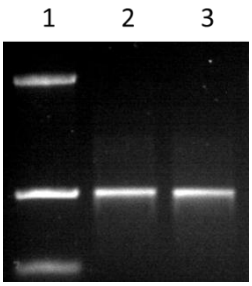


Figure 1. Gel extraction of 500 bp DNA fragments using Plus Gel Elution Kit.
Lane 1: Unpurified DNA fragments
Lane 2, 3: Gel extraction using **GeneMark Plus Gel Elution Kit**

Ordering Info

DESCRIPTION	Cat.No.	REACTION
Plus Gel Eluted Kit	DP03P	50
Plus Gel Eluted Kit	DP03P-300	300

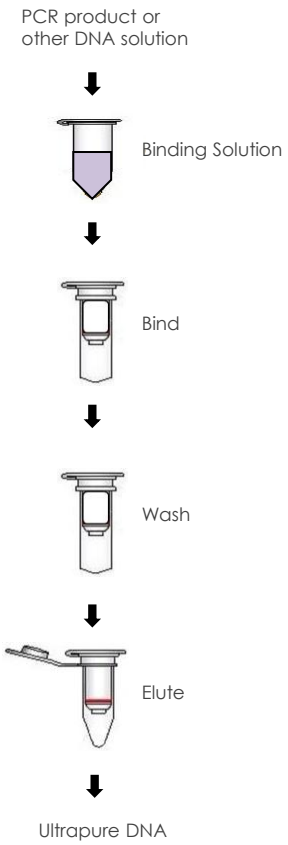
Molecular Biology Kits

Plus PCR Clean-Up Kit

Features

• High capacity and recovery rate:
The DNA binding capacity is up to 20 μg per column. 80~95% recovery rate can be achieved.

• Fast:
The whole process can be done within 15 minutes.



Description

The Plus PCR Clean-Up Kit is designed to purify DNA fragments from PCR products or other enzymatic reactions (eg. Enzyme digestion, DNA ligation, probe labeling) based on our specific buffer system and high-capacity column. After the easy bind-wash-elute procedure, excess primers and salts are removed from PCR products or enzymatic reactions, and DNA fragments larger than 70 bp (up to 50 kb) can be purified using this kit.

Application

DNA purified can be used directly for subsequent applications such as automated fluorescent DNA sequencing, cloning, labeling, restriction enzyme digestion or *in vitro* transcription/translation.

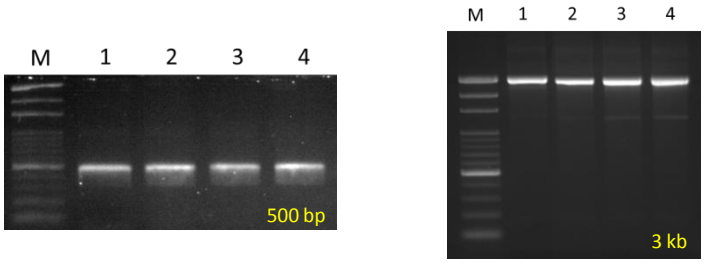


Figure 1. Gel electrophoresis analysis of PCR reaction before (1) and after (2),(3),(4) purification using GeneMark Plus PCR Clean-Up Kit.
500 bp and 3 kb of PCR products were clean-up.
Lane 1: Unpurified PCR product
Lane 2-4: Purified using **GeneMark Plus PCR clean-up Kit**
M: DNA ladder

Ordering Info

DESCRIPTION	Cat.No.	REACTION
Plus PCR Clean-Up Kit	DP04P	50
Plus PCR Clean-Up Kit	DP04P-300	300

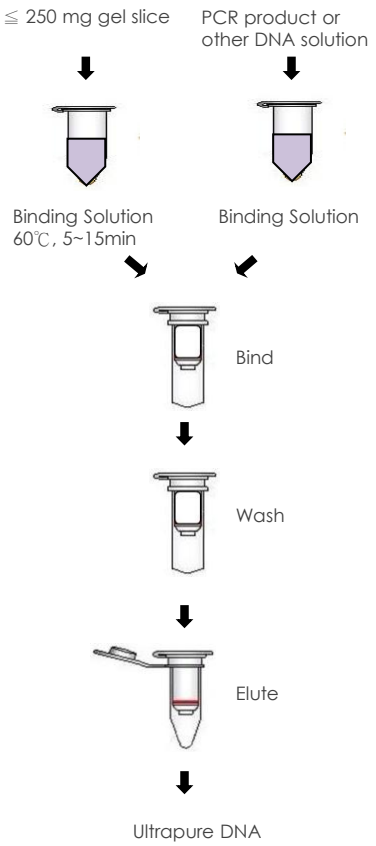
Plus DNA Clean/Extraction Kit

(PCR Clean-up/ Gel Extraction/ DNA Clean-Up)

Features

• High capacity and recovery rate:
The DNA binding capacity is up to 20 μg per column. The recovery rate is 80%~95% for PCR clean-up and 60%~90% for DNA gel elution, depending on size of DNA fragments.

• Fast:
The whole process can be done within 15 minutes.



Description

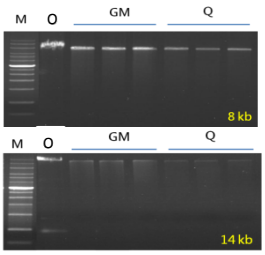
The Plus DNA Clean/Extraction Kit is designed to extract DNA fragments of 70 bp to 50 kb from standard or low-melting agarose gels in either Tris acetate (TAE) or Tris borate (TBE) buffer system, and can also purify DNA fragments directly from an amplification or enzymatic reaction based on our specific buffer system. This kit can be used for DNA gel elution, PCR clean-up, and DNA desalting.

Application

DNA purified can be used directly for subsequent applications such as automated fluorescent DNA sequencing, cloning, labeling, restriction enzyme digestion or *in vitro* transcription/translation.

Gel Elution

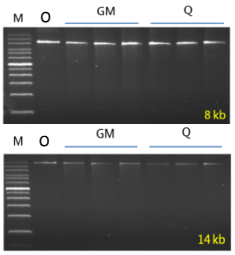
8 kb and 14 kb of PCR products were purified by gel elution method.



O: Original PCR product | Q: Supplier Q
GM: GeneMark Plus DNA Clean/ Extraction Kit

DNA Clean up

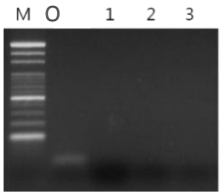
8 kb and 14 kb of PCR products were purified by clean-up method.



O: Original PCR product | Q: Supplier Q
GM: GeneMark Plus DNA Clean/ Extraction Kit

Primer Removal

Remove oligo-primers of 33 bases using GeneMark Plus DNA Clean/Extraction Kit.



O: Original PCR product
1~3: GeneMark Plus DNA clean/ Extraction Kit

Ordering Info

DESCRIPTION	Cat.No.	REACTION
Plus DNA Clean/Extraction Kit	DP034P	50
Plus DNA Clean/Extraction Kit	DP034P-300	300

Micro-Elute DNA Clean/Extraction Kit

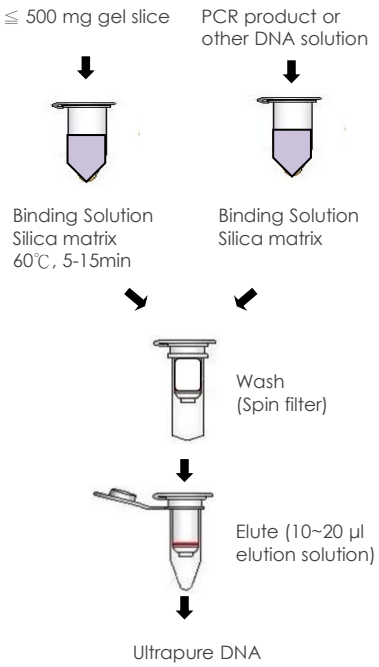
(PCR Clean-up/ Gel Extraction/ DNA Clean-Up/ DNA Concentration)

Features

• High capacity and recovery rate:
1 µl silica matrix can bind at least 2 µg DNA. The recovery rate can reach 95% for PCR clean-up and 80% for DNA gel elution, depending on DNA fragment size.

• DNA concentration: DNA can be eluted in small volume as little as 10 µl.

• Fast:
The whole process can be done within 15 minutes.



Description

The Micro-Elute DNA Clean/Extraction Kit provides silica matrix with ultra-high binding capacity and unique buffer system to recover DNA in small volume (as little as 10 µl). This design provides highly concentrated DNA in high yields when proceeding DNA gel elute, PCR clean-up, or DNA desalting.

Application

DNA purified can be used directly for subsequent applications such as automated fluorescent DNA sequencing, cloning, labeling, restriction enzyme digestion or *in vitro* transcription/translation.

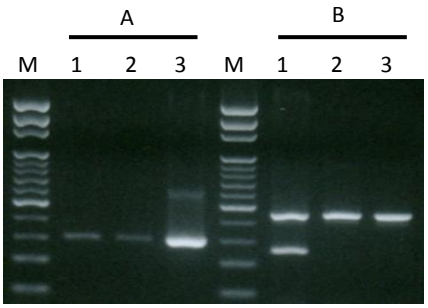


Figure 1. Concentrating DNA and gel purification using GeneMark Micro-Elute DNA Clean/Extraction kit.

A: DNA Clean-up
Lane 1: 1 µl of unpurified PCR 300 bp product
Lane 2: 10 µl of PCR product was diluted to 1 ml with TE buffer, then processed and eluted to 10 µl using Micro-Elute DNA Clean/Extraction kit. 1 µl of the eluate was loaded onto agarose gel.
Lane 3: Concentrate 500 µl of PCR product to 10 µl volume. Load 1 µl of eluate onto agarose gel.

B: Gel purification
Lane 1: 5 µl of unpurified PCR product
Lane 2: 50 µl eluate of 450 bp DNA fragment was recovered from gel slice by GeneMark DNA Clean/ Extraction kit. Load 5 µl of eluate on agarose gel.
Lane 3: 10 µl eluate of 450 bp DNA fragment was recovered from gel slice by Micro-Elute DNA Clean/Extraction kit. Load 1 µl of eluate on agarose gel.

Ordering Info

DESCRIPTION	Cat.No.	REACTION
Micro-Elute DNA Clean/Extraction Kit	DP034ME	50
Micro-Elute DNA Clean/Extraction Kit	DP034ME-300	300

Molecular Biology Kits

Genomic DNA Purification Kits

- *Spin column/Salting-out format*
- *Easy to use*
- *High yield and high purity*
- *Speedy operation procedure*

Product Info

Product	Cat. No.	Sample	DNA recovery	Format	Time
Tissue/Cell	DP021	Bacteria, animal cells & tissues, insect ,spleen, mouse tail, yeast	2~40 μg	Spin column	30 min
EASY Tissue/Cell	DP021E		~80 μg	Salting-out	20 min
Plant	DP022	Arabidopsis thaliana, rice, tomato, tobacco, orchid, algae, fungi, medical herbs or viral DNA from infected plant tissue/cells	3~50 μg	Spin column	2 hrs
Midi Plant	DP022MD		30~500 μg	Salting-out	2 hrs
Plus Blood	DP023P	Whole Blood up to 1.5 ml	3~50 μg	Spin column	30 min
EASY Blood	DP023E	Whole Blood up to 3 ml	~60 μg	Salting-out	20 min
Dry Blood Spots	DP023BM-50	GMpure Dry Blood Spots DNA Kit	For 20 times PCR or qPCR	Spin column	1hr
Serum/plasma	DP023SM-50	GMpure Serum/Plasma Circulating DNA Ki	For 20 times PCR or qPCR	Spin column	1hr
Bacteria	DP025	Bacteria cells up to 2 x 10^9	2~40 μg	Spin column	1.5 hrs
Mycoplasma	DPB36-50	-	For 20 times PCR or qPCR	Spin column	1.5 hrs

Others

Product Info

Product	Cat. No.	Sample	DNA recovery	Format	Time
Soil gDNA	DPM024-50	Sand, soil and fecal samples	5~50 μg	Spin column	30 min
Swab DNA	DPM028	Swab samples	1.3~4.5 μg	Spin column	1.5 hrs
Stool DNA	DPM029	Stool samples	For 20 times PCR or qPCR	Spin column	1 hr
Yeast gDNA	DPB032-50	Up to 3 mL of log-phase culture	15~30 ug	Spin column	1 hr
fungal gDNA	DPB033-50	Dry or fresh fungal tissue 100mg	For 20 times PCR or qPCR	Spin column	1 hr
Viral DNA	DPB034	Blood	For 20 times PCR or qPCR	Spin column	1 hr
Saliva DNA	DPM037-50	Saliva samples	For 20 times PCR or qPCR	Spin column	2hr
Insect gDN	DPB044-50	<30 mg tissue	~100 ug	Spin column	1hr

Molecular Biology Kits

Tissue & Cell Genomic DNA Purification Kit

Features:

• Sample type:
Bacteria, animal cells & tissues, insects, nematodes, mouse tail, yeast, etc.

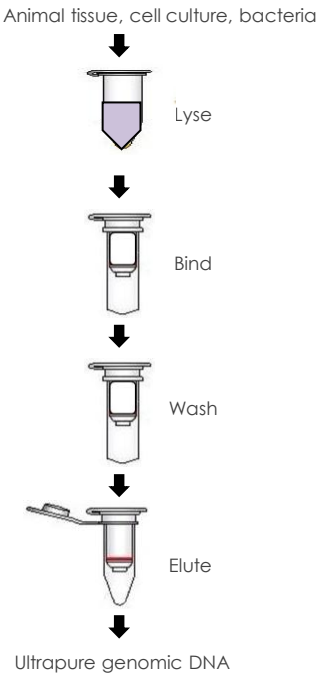
• Sample size:
25 mg tissue or 5 x 10^6 cells.

• Yield:
The purified genomic DNA is up to 50 kb in size and yields from 2 to 40 µg depending on sample types.

• Fast:
The bacterial genomic DNA can be obtained within an hour. May take longer for some samples due to different lysis time.

• Safe:
Without phenol-chloroform extraction.

• Purity:
The ratio of A_{260} to A_{280} is between 1.7 and 1.9.



Description

Tissue & Cell Genomic DNA Purification Kit simplifies purification of DNA from animal tissues, cells, bacteria, nematodes, and yeast with three easy steps: cell lysis, DNA binding, and DNA elution.

Applications

The purified genomic DNA can be used for subsequent applications such as PCR, Real-time PCR, Southern blot, DNA hybridization, DNA sequencing, restriction digestion, cloning etc.

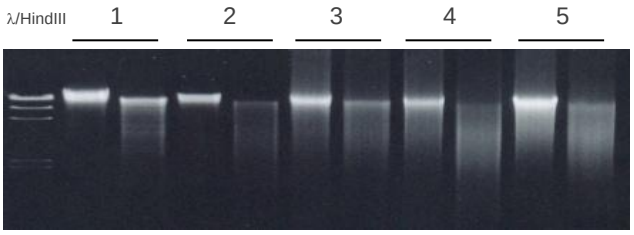
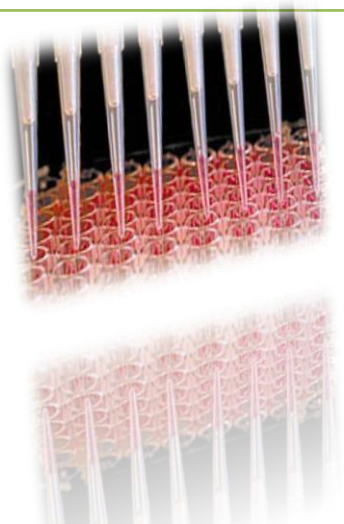


Figure 1. Gel electrophoresis analysis of purified genomic DNA from various samples using GeneMark Tissue & Cell Genomic DNA Purification Kit.
2% of purified DNA (left) and *Eco*RI digested DNA (right) were loaded on 1% agarose gel.
Lane 1: DH5α (*E.coli*)
Lane 2: Bladder cells (cultured cells)
Lane 3: Mouse tail
Lane 4: Zebrafish tail fin
Land 5: Cricket (whole insect)

Ordering Info

DESCRIPTION	Cat.No.	REACTION
Tissue & Cell Genomic DNA Purification Kit	DP021	50
Tissue & Cell Genomic DNA Purification Kit	DP021-150	150



Easy Tissue & Cell Genomic DNA Purification Kit

Features

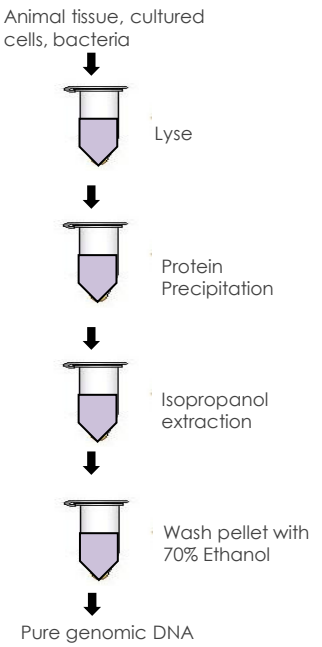
• Sample type:
Bacteria, animal cells & tissues, insects, nematodes, mouse tail, yeast, etc.

• Sample size:
25 mg tissue or 1 x 10^7 cells.

• Yield:
~80 µg genomic DNA can be obtained depending on sample types.

• Fast:
Easy steps without spin column→ cell lysis, proteinase K digestion, protein precipitation, and DNA precipitation.

• Safe:
Without phenol-chloroform extraction.



Description

Easy Tissue & Cell Genomic DNA Purification Kit provides a simple solution-based procedure without spin column and phenol-chloroform extraction. No hazardous chemicals are contained in the lysis buffer. The high-yield genomic DNA is obtained by centrifugation and precipitation method throughout the whole procedure, which involves cell lysis, proteinase K digestion, protein precipitation and DNA precipitation.

Application

The purified genomic DNA can be used for subsequent PCR, Southern blot, DNA hybridization, restriction digestion, cloning, etc.

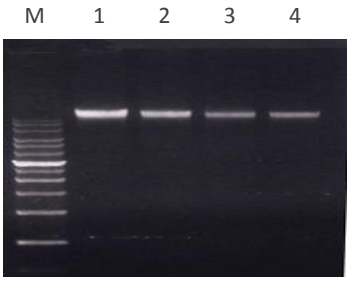


Figure 1. Purification of zebrafish gDNA using GeneMark Easy Tissue & Cell Genomic DNA Purification Kit.
1% of purified DNA eluate was loaded on 1% agarose gel.
Lane 1, 2, 3: Purification of zebrafish gDNA from 15 mg, 8 mg, 5 mg of whole zebrafish
Lane 4: Zebrafish tail-fin gDNA
M: GenKB DNA Ladder

Ordering Info

DESCRIPTION	Cat.No.	REACTION
Easy Tissue & Cell Genomic DNA Purification Kit	DP021E	50
Easy Tissue & Cell Genomic DNA Purification Kit	DP021E-150	150

Molecular Biology Kits

Plant Genomic DNA Purification Kit

Features

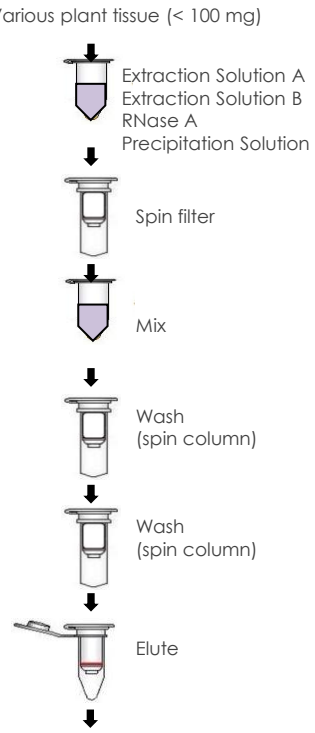
• Sample type:
Plant samples such as rice, tomato, arabidopsis, algae, tobacco, orchid, fungus or virus infected plants.

• Sample size and Yield:
Up to 50 μg genomic DNA from 50~100 mg plant tissues.

• Fast:
The whole process can be done within 2 hours.

• Safe:
Without phenol-chloroform extraction.

• Purity:
Ultrapure genomic DNA without polysaccharides and secondary metabolites is obtained by silica-based spin column. The ratio of A_{260} to A_{280} is between 1.7 and 1.9.



Description

Plant Genomic DNA Purification Kit is extremely suitable for purification of genomic DNA from various kinds of plants and fungi, especially plants rich in polysaccharides and secondary metabolites. The unique Precipitation Solution in the kit is designed to eliminate these contaminants easily to obtain high-quality gDNA.

Application

The purified genomic DNA can be used for subsequent applications such as PCR, Real-time PCR, Southern blot, DNA hybridization, DNA sequencing, restriction digestion, cloning, etc.

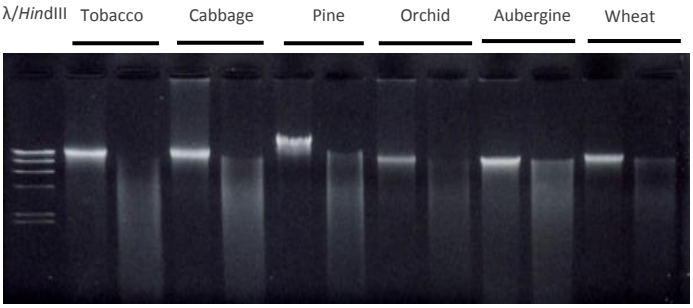


Figure 1. Gel electrophoresis analysis of DNA purified from the indicated leaves or needles using Plant Genomic DNA Purification kit. 2% of purified DNA eluate (left) and *Eco*RI digested DNA (right) were loaded on 1% agarose gel.

Ordering Info

DESCRIPTION	Cat.No.	REACTION
Plant Genomic DNA Purification Kit	DP022	50
Plant Genomic DNA Purification Kit	DP022-150	150

Midi Plant Genomic DNA Purification Kit

Features

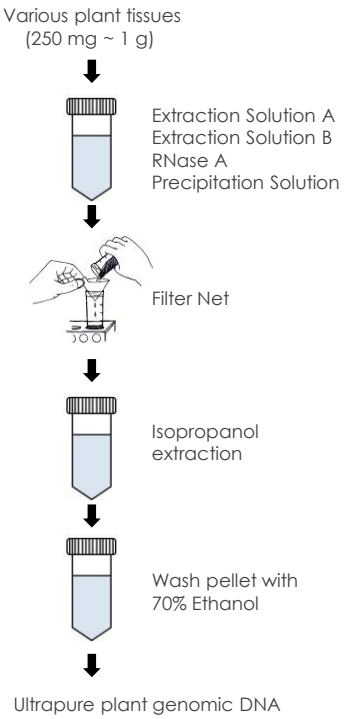
• Sample type:
Plant samples such as rice, arabidopsis, algae, tomato, tobacco, orchid, fungus and virus infected plants.

•Sample size:
Up to 1 g plant tissues.

•Yield:
30~500 µg genomic DNA.

•Fast:
The whole process can be done within 2 hours.

•Safe:
Without phenol-chloroform extraction.



Description

Midi Plant Genomic DNA Purification Kit provides a simple solution-based procedure that is modified from salt precipitation solutions for polysaccharide-rich plants and for plant tissues rich in secondary metabolites. The procedure includes cell lysis, protein precipitation, polysaccharides and secondary metabolites removal, and gDNA precipitation with isopropanol. The kit can process up to 1 g of plant tissue.

Application

The purified genomic DNA can be used for subsequent applications such as PCR, Southern blot, DNA hybridization, restriction digestion, cloning, etc.

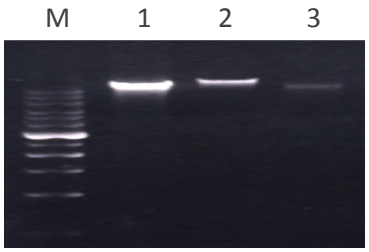


Figure 1. Gel electrophoresis analysis of plant genomic DNA purified from rice leaves using GeneMark Midi Plant Genomic DNA Purification Kit.
1% of purified DNA eluate was loaded on 1% agarose gel.
Lane 1: 1 g of young rice leaf purified using GeneMark Midi Plant Genomic DNA Purification Kit
Lane 2: 100 mg of young rice leaf using spin column kit from supplier A
Lane 3: 100 mg of young rice leaf using spin column kit from supplier B

Ordering Info

DESCRIPTION	Cat.No.	REACTION
Midi Plant Genomic DNA Purification Kit	DP022MD	10
Midi Plant Genomic DNA Purification Kit	DP022MD-50	50

Molecular Biology Kits

Plus Blood Genomic DNA Purification Kit

Features

• Sample type:
Whole blood and buffy coat.

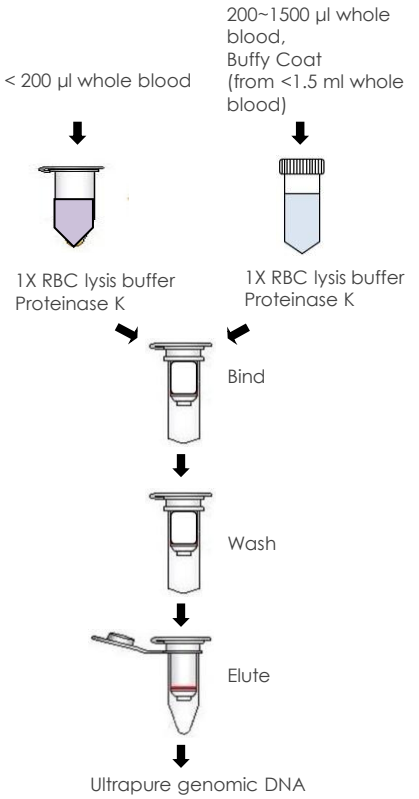
• Sample size:
200 µl~1.5 ml of whole blood.

• Yield:
3~50 µg genomic DNA can be obtained, depending on sample volume and species.

• Fast:
The whole process can be done within 30 minutes.

• Safe:
Without phenol-chloroform extraction.

• Purity:
The ratio of A_{260} to A_{280} is between 1.7 and 1.9.



Description

Plus Blood Genomic DNA Purification Kit provides an easy three-step procedure: cell lysis, DNA binding, and DNA elute, to isolate up to 50 µg of genomic DNA from various animal bloods. The process is based on a spin column format to obtain high-purity genomic DNA.

Application

The purified genomic DNA can be used for subsequent applications such as PCR, Real-time PCR, Southern blot, DNA hybridization, DNA sequencing, restriction digestion, cloning, etc.

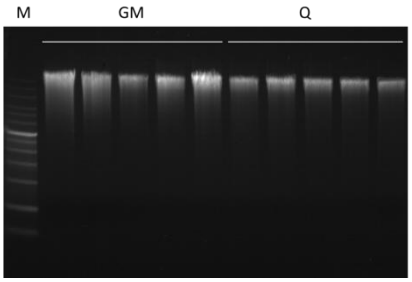


Figure 1. Gel electrophoresis analysis of genomic DNA purified from 400 µl human whole blood using GeneMark Plus Blood Genomic DNA Purification Kit and related product from supplier Q.
5 µl of 200 µl eluates were loaded on 0.8% agarose gel.
M: GeneMark DNA ladder
GM: GeneMark Plus Blood Genomic DNA Purification Kit
Q: Supplier Q

Ordering Info

DESCRIPTION	Cat.No.	REACTION
Plus Blood Genomic DNA Purification Kit	DP023P	50
Plus Blood Genomic DNA Purification Kit	DP023P-150	150

Easy Blood Genomic DNA Purification Kit

Features

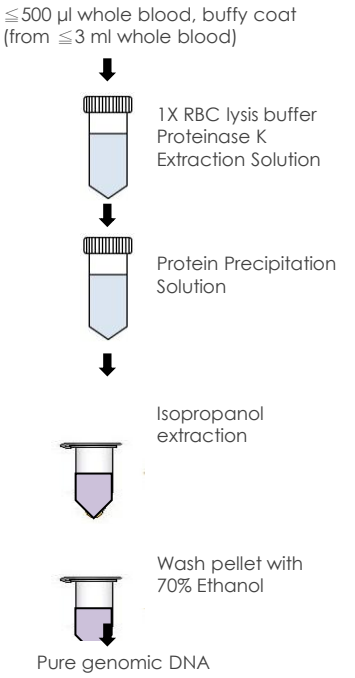
•Sample type:
Whole blood and buffy coat.

•Sample size:
Up to 3 ml of whole blood.

•Yield:
~60 µg genomic DNA can be obtained , depending on sample volume and species.

•Fast:
The whole process can be done within 20 minutes.

•Safe:
Without phenol-chloroform extraction.



Description

Easy Blood Genomic DNA Purification Kit provides a simple solution-based procedure which is modified from salt precipitation solutions. The procedure includes RBC lysis, protein precipitation, DNA precipitation and DNA elute, which can yield ~60 µg genomic DNA from 500 µl whole blood.

Application

The purified genomic DNA can be used for subsequent applications such as PCR, Southern blot, DNA hybridization, restriction digestion, cloning, etc.

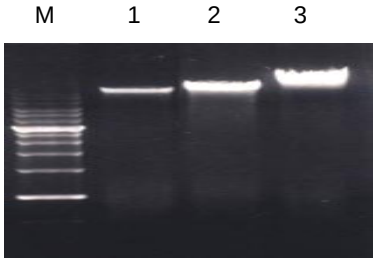


Figure 1. Gel electrophoresis analysis of genomic DNA purified from rabbit whole blood using GeneMark Easy Blood Genomic DNA Purification Kit.
1% purified DNA were loaded on 1% agarose gel.
Lane 1: 200 µl of whole blood by Supplier A using spin column.
Lane 2: 500 µl of whole blood by Supplier A using spin column.
Lane 3: 500 µl of whole blood by **GeneMark Easy Blood Genomic DNA Kit .**

Ordering Info

DESCRIPTION	Cat.No.	REACTION
Easy Blood Genomic DNA Purification Kit	DP023E	50
Easy Blood Genomic DNA Purification Kit	DP023E-150	150

GMpure Dry Blood Spots DNA Kit

Description

GMpure Dry Blood Spots DNA Kit is based on silica membrane technology and can be used to quickly and easily separate and purify total DNA from dried blood spots. Thus the maximizing the integrity and purity of the extracted genomic DNA. The purified genomic DNA fragment are of high purity, stable and reliable quality, suitable for downstream applications such as restriction digestion, PCR amplification, Real-Time PCR library preparation Southern hybridization and other molecular biology experiments.

Features

•Easy, auick and safy:
Easy operation steps ensure extracting genomic DNA in 1 hr. The buffer solution system exclude phenol amd chloroform, that is safe to operator and environment.

•High Purity:
The high purity genomic DNA is suitable for downstream pplication.ml of whole blood.

Application

Applicable to purification of total DNA from Dried Blood spots.

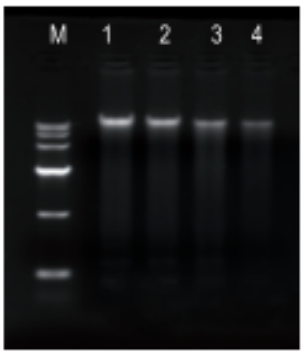


Fig: Genomic DNA are extracted from dried blood spots of human blood and chicken blood by GMpure Dried Blood Spots Genomic DNA Kit (Spin Column).
The spots sampleis 3 pieces of 3x3 mm, the elution volume is 50 µL, sample volume is 6 µL for agarose gel electrophoresis , Marker volume is 6 µL for agarose gel electrophoresis.

M: 15000 bp Marker
Lane1-2: human dried blood spots genomic DNA
Lane3-4: chicken dried blood spots genomic DNA

Ordering Info

DESCRIPTION	Cat.No.	REACTION
GMpure Dry Blood Spots DNA Kit	DP023BM-50	50
GMpure Dry Blood Spots DNA Kit	DP023BM-150	150

PCR product volume is 6 μL for agarose gel electrophoresis, Marker volume is 6 μL for agarose gel electrophoresis.
M: 2000 bp Marker
Lane1-3: PCR product of human serum circulating DNA

GMpure Serum/Plasma DNA Kit

Features

- Quickly extracting and purifying : Circulating DNA from serum/plasma samples, the volume of purified DNA as low as 25 μL.
- Safy: The buffer solution system exclude Phenol/chloroform, it is safe to operator and environment.
- Application: Residual impurities can be removed by washing buffer, the high purity circulating DNA is suitable for downstream applications such as PCR amplification, real-time PCR directly.

Description

GMpure Serum/Plasma DNA Kit (Spin Column) are based on GeneMark's proprietary silica membrane purification technology, capable of quickly extracting and purifying genomic DNA from fresh or frozen samples of serum, plasma, lymph, etc. The sample volume is up to 1mL, and the volume of column obtained DNA is up to 800 μL. The elution volume of purified DNA as less as 25 μL.

Application

The high purity circulating DNA is suitable for downstream applications such as PCR amplification, real-time PCR directly.

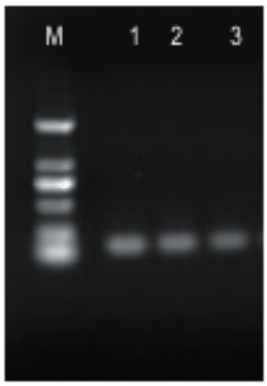


Fig: The circulating DNA is extracted from human serum samples by Gmpure Serum and Plasma DNA Kits (Spin Column),
PCR product volume is 6 μL for agarose gel electrophoresis, Marker volume is 6 μL for agarose gel electrophoresis.

M: 2000 bp Marker
Lane1-3: PCR product of human serum circulating DNA

Ordering Info

DESCRIPTION	Cat.No.	REACTION
GMpure Serum/Plasma DNA Kit	DP023SM-50	50

Molecular Biology Kits

Bacteria Genomic DNA Purification Kit

Features

• Sample type:
Gram-negative and Gram-positive bacteria.

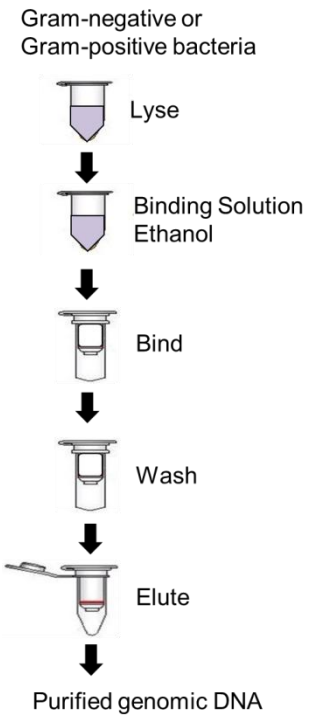
• Sample size:
< 2 x 10^9 bacteria cells.

• Yield:
2~40 µg genomic DNA can be obtained, depending on sample volume and sample type.

• Fast:
The whole process can be done within 1.5 hours.

• Safe:
Without phenol-chloroform extraction.

• Purity:
The ratio of A_{260} to A_{280} is between 1.7 and 1.9.



Description

Bacteria Genomic DNA Purification Kit is designed for isolating the genomic DNA from bacteria and based on a spin column format, which involves cell lysis by Lysozyme and proteinase K, adsorption of DNA to the column, washing and elution of DNA from the column. Typical yield ranges from 2~40 µg of DNA, depending on the sample volume and sample type.

Application

The purified genomic DNA can be used for subsequent applications such as PCR, restriction enzyme digestion, cloning, dot blot analysis, etc.

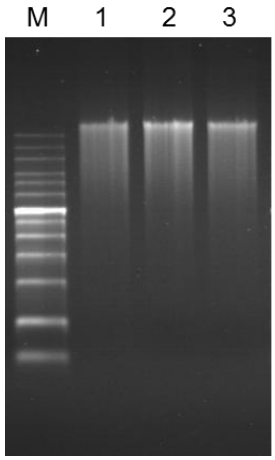


Figure 1. Gel electrophoresis analysis of genomic DNA purified from bacteria using Bacteria Genomic DNA Purification Kit. 1 µl of 100 µl eluates were loaded on 0.8% agarose gel.
M: GnenMark DNA ladder
Lane 1-3: Genomic DNA purified from 1 ml of DH5α culture.

Ordering Info

DESCRIPTION	Cat.No.	REACTION
Bacteria Genomic DNA Purification Kit	DP025	50
Bacteria Genomic DNA Purification Kit	DP025-150	150

GMmycoplasma gDNA Kit

Features

• Sample type:
Mycoplasma

• Yield:
The yield of genomic DNA depending on sample volume and the are enough to application of PCR, Blotting or R.E digestion.

• Fast:
The whole process can be done within 1.5 hours.

• Safe:
Without phenol-chloroform extraction.

• Purity:
The ratio of A_{260} to A_{280} is between 1.7 and 1.9.

Description

The GMmycoplasma gDNA kit provides a fast and easy method for isolating gDNA from mycoplasma. The system utilizes the reversible nucleic acid-binding properties of GeneMark's Bind membrane and the speed of spin column technology to yield high quality gDNA with the $OD_{260/280}$ ratio of 1.7-1.9.

Application

Purified DNA is ready for applications such as PCR, Southern Blotting, and Restriction Digestion.

Storage and Stability

All Gmmycoplasma gDNA Kit components are guaranteed for at least 12 months from the date of purchase when stored as follows:
Reconstituted Protease K and store at -20°C.
All other materials at room temperature (22-25°C).

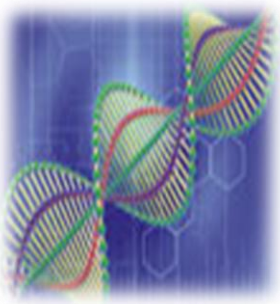
Ordering Info

DESCRIPTION	Cat.No.	REACTION
GMmycoplasma gDNA Kit	DPB36-50	50

GMsoil gDNA Kit

Features

- High-quality silica membrane is capable of strong adsorption to ucleic acids under chaotropic conditions and easy elution under low-salt or no-salt conditions.
- Frits can withstand high-speed centrifugation, with extremely low adsorption to nucleic acids.
- Reliable performance of the purified soil genomic DNA in molecular biology experiments.



Description

GMsoil gDNA Kits are based on GeneMrk's classic silica membrane purification technology, capable of quickly extracting and purifying genomic DNA from fresh soil samples such as farmland soil, flower bed soil, or wet mud, etc. The optimized buffer system in the kits can remove humic acids and other organic impurities as much as possible, then lyses soil microbial cells to release DNA which efficiently adsorbs into silica membrane in the spin column. The residual impurities are removed with Wash Buffer (Buffer BH), and the genomic DNA is eluted in Elution Buffer (Buffer TE). The obtained genomic DNA is high-purity and the quality is stable and reliable. The purified soil genomic DNA is suitable for downstream applications such as restriction digestion, PCR amplification, library preparation and other molecular biology experiments.

Application

The purified soil genomic DNA is suitable for downstream applications such as restriction digestion, PCR amplification, library preparation and other Molecular biology experiments.

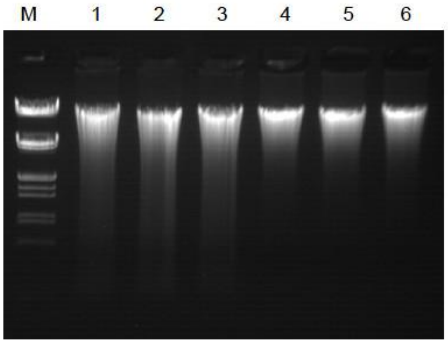


Figure 1. Agarose gel electrophoresis analysis of genomic DNA isolation from soil of farmland.
Lane 1-3: Genomic DNA extraction using related soil gDNA purification kit. (Supplier M)
Lane 4-6: Genomic DNA extraction using GMsoil gDNA Kit. (GeneMark)
M: DNA ladder

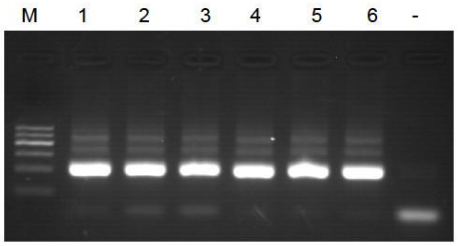


Figure 2. PCR amplification of purified genomic DNA from soil of farmland . The PCR product size is 210 bp.
M: DNA ladder
Lane 1-3: Supplier M , related soil gDNA purification kit
Lane 4-6: GeneMark, GMsoil gDNA Kit
Lane - : Negative control

Ordering Info

DESCRIPTION	Cat.No.	REACTION
GMsoil gDNA Kit	DPM024	50

Molecular Biology Kits

GMswab DNA Kit

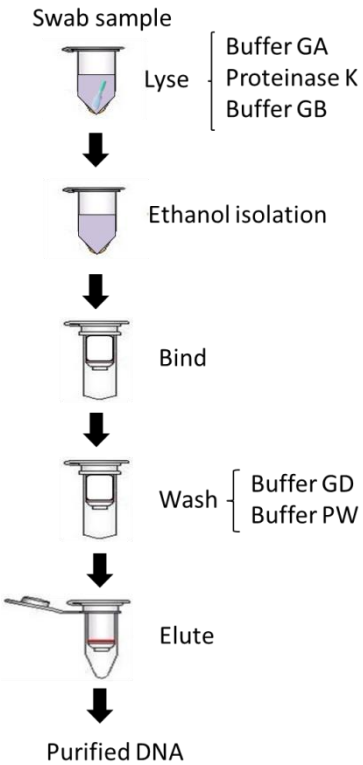
Features

•Sample type:
Swab samples.

•Yield:
1.0~4.5 μg DNA can be isolated from one swab sample.

•Fast:
The whole process can be done within 1.5 hrs.

•Safe:
Without phenol-chloroform extraction.



Description

The GMswab DNA Kit uses unique silica membrane technology and special buffer system for purification of gDNA effectively. The spin column made of new type silica-gel membrane in this kit can be easily bound by DNA specifically. The purified DNA is of high quality.

Application

The purified DNA can be used for agarose gel analysis, restriction enzyme digestion, PCR, Southern hybridization, etc.

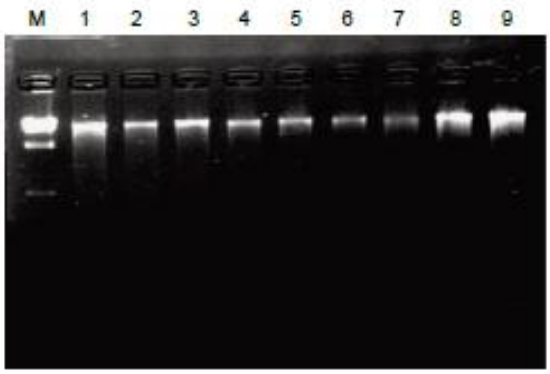


Figure 1. Genomic DNA was purified from different swab samples using GMswab DNA Kit. 3 μl of 50 μl eluates (in TB buffer) were loaded per lane. M: GeneMark λ DNA/Hind III

Ordering Info

DESCRIPTION	Cat.No.	REACTION
GMswab DNA Kit	DPM28-50	50

GMstool DNA Kit

Description

Using classic silica membrane adsorption technology, GeneMark's GMswab DNA Kit (Spin Column) can rapidly extract genomic DNA from different buccal swab sample. The characteristic buffer solution system can collect the high purity genomic DNA up to 1.0 μg-4.5 μg.

Features

- Ground-breaking buffer solution system ensure that the high purified genomic DNA can quickly and easily extracted from buccal swab samples.
- Using classic silica membrane adsorption technology, the lysed DNA can effectively bind to the spin column, while DNA can be eluted and purified under aqueous solution .
- The buffer solution system exclude Phenol/chloroform, it is safe to operator and environment.

Application

The purified genomic DNA is suitable for downstream applications such as restriction digestion, PCR amplification, real-time PCR, library preparation and other molecular biology experiments.

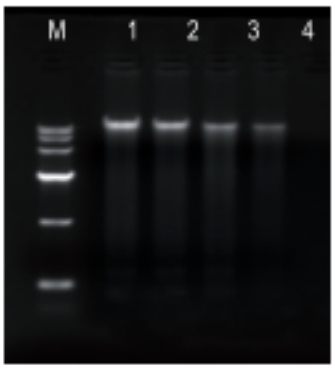
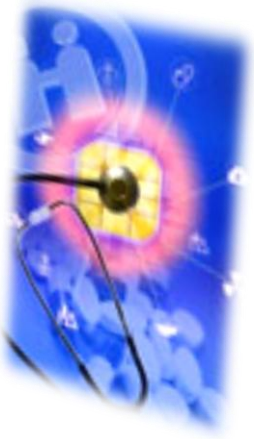


Fig: The swab genomic DNA extracted by GeneMark's kit and A company's kit. The elution volume is 50 μL, sample volume is 6 μL for agarose gel electrophoresis, Marker volume is 6 μL for agarose gel electrophoresis. Result: Compared to A company's extracted DNA, the genomic DNA extracted by GeneMark's kit is higher quantity, more purity.

M: 15000 bp Marker
Lane1-2: buccal swab genomic DNA extracted by GeneMark's kit
Lane3-4: buccal swab genomic DNA extracted by A company's kit

Ordering Info

DESCRIPTION	Cat.No.	REACTION
GMstool DNA Kit	DPM29	50



GMyeast gDNA Kit

Features

• Sample type:
3 ml of wide variety of yeast species.

• Yield:
15~30ug

• Fast:
The whole process can be done within 1.5 hours.

• Safe:
Without phenol-chloroform extraction.

• Purity:
The ratio of A_{260} to A_{280} is between 1.7 and 1.9.

Description

The GMyeast gDNA Kit allows rapid and reliable isolation of high-quality total cellular DNA from a wide variety of yeast species. Up to 3 mL of log-phase culture (OD_{600} of 1.0 in YPD medium) can be processed. The system combines the reversible nucleic acid-binding properties of GM binding matrix with the speed and versatility of spin column technology to yield approximately 15-30 µg of DNA with an A_{260}/A_{280} ratio of 1.7-1.9. There are no organic extractions thus reducing plastic waste and hands-on time to allow multiple samples to be processed in parallel. GMyeast gDNA Kit will isolate all cellular DNA, including plasmid DNA.

Application

Purified DNA is suitable for PCR, restriction digestion, and hybridization techniques.

Storage and Stability

All components of the GMyeast gDNA Kit, except the Proteinase K,RNase A and Lyticase can be stored at 22°C-25°C and are guaranteed for at least 12 months from the dated of purchase. Once reconstituted in water,Proteinase K and Lyticase must be stored at -20°C. Store RNase A at 4 °C. Under cool ambient conditions, a precipitate may form in the Buffer YBL/YTL. In case of such an event, heat the bottle at 37°C to dissolve. Store Buffer YTL/ YBL at room temperature.

Ordering Info

DESCRIPTION	Cat.No.	REACTION
GMyeast gDNA Kit	DPB32-50	50

GMfungal gDNA Kit

Features

• Sample type:
Up to 100mgl of wide variety of fungal species.

• Yield:
The yield of genomic DNA depending on sample volume and the are enough to application of PCR, Blotting or R.E digestion.

• Fast:
The whole process can be done within 1.0 hours.

• Safe:
Without phenol-chloroform extraction.

• Purity:
The ratio of A_{260} to A_{280} is between 1.7 and 1.9.

Description

The GMfungal gDNA Kit allow rapid and reliable isolation of high-quality total cellular DNA from a wide variety of Fungal species and tissues. Up to 100 mg of wet tissue (or up to 50 mg dry tissue) can be processed in less than 1 hour. The system combines the reversible nucleic acid-binding properties of Biomiga's matrix with the speed and versatility of spin column technology to eliminate polysaccharides, phenolic compounds, and enzyme inhibitors from fungal tissue lysates. There are no organic extractions thus reducing plastic waste and hands-on time to allow multiple samples to be processed in parallel.

Application

Purified DNA is suitable for PCR, restriction digestion, and hybridization techniques.

Storage and Stability

All components of the EZgene™ Fungal gDNA Miniprep Kit are stable for at least 12 months from date of purchase when stored at 22℃-25℃. During shipment or storage in cool ambient conditions, precipitates may form in Buffer FG 3. It is possible to dissolve such deposits by warming the solution at 37℃.

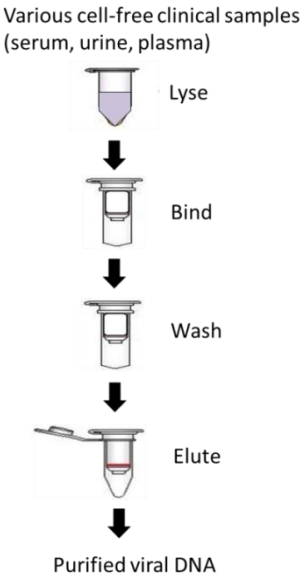
Ordering Info

DESCRIPTION	Cat.No.	REACTION
GMfungal gDNA Kit	DPB33-50	50

Viral DNA Purification Kit

Description

The Viral DNA Purification Kit provides a fast, simple and highly reproducible method for isolation of viral DNA from a broad range of cell-free clinical samples. Viral DNA in lysates is selectively absorbed in the spin column, and other impurities don't bind in the column.



Application

The purified viral DNA can be used for PCR, Real-time PCR and other clinical research applications.

Features

- Sample type: Serum, urine, plasma and other cell-free samples.
- High sensitivity: 30~50 virus particles in 1 ml of sample can be detected by PCR.
- Fast: The whole process can be done within 20 minutes.
- Safe: Without phenol-chloroform extraction.

Ordering Info

DESCRIPTION	Cat.No.	REACTION
Viral DNA Purification Kit	DPB034	50

GMsaliva DNA extraction kit

Description

GMsaliva DNA extraction Kits (Spin Column) are based on Biocomma proprietary silica membrane purification technology, capable of quickly extracting and purifying genomic DNA from saliva samples. The optimized Buffer system in these kits can remove proteins and other organic impurities as much as possible. The obtained genomic DNA is high-purity and the quality is stable and reliable.

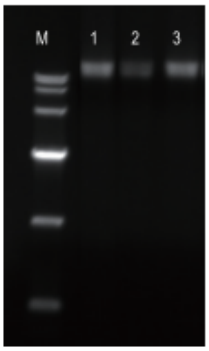


Fig: Saliva genomic DNA is extracted from saliva samples by GMsaliva DNA extraction Kit (Spin Column), PCR product volume is 6 μL for agarose gel electrophoresis, Marker volume is 6 μL for agarose gel lectrophoresis.

M: 15000 bp Marker
Lane1-3: saliva genomic DNA

Application

The purified blood genomic DNA is suitable for downstream applications such as restriction digestion, PCR, library preparation, Southern blot and other molecular biology experiments.

Features

- Simple, rapid and non-toxic
- The purified genomic DNA could be directly used for applications such as restriction digestion, PCR, library preparation, Southern blot and other molecular biology experiments.

Ordering Info

DESCRIPTION	Cat.No.	REACTION
GMsaliva DNA extraction Kit	DPM37-50	50

GMinsect gDNA Kit

Features

• Sample type:
from insects, arthropods, and some plant tissue samples rich in polysaccharides.

• Yield:
The yield of genomic DNA depending on sample volume and the are enough to application of PCR, Blotting or R.E digestion.

• Fast:
The whole process can be done within 1.5 hours.

• Safe:
Without phenol-chloroform extraction.

Description

GMinsect gDNA is designed for efficient recovery of genomic DNA up to 60 kb in size from insects, arthropods, and some plant tissue samples rich in polysaccharides. The method is suitable for samples frozen or preserved in alcohol or DNE solution, and good results can be obtained with formalin preserved material. Samples are homogenized and lysed in a high salt buffer and extracted with chloroform to remove polysaccharides. Following a rapid alcohol precipitation step, binding conditions are adjusted and DNA further purified using Bind DNA spin columns. In this way, salts, proteins and other contaminants are removed to yield high quality genomic DNA.

Application

The pufified **hi**gh quality genomic DNA suitable for downstream applications such as endonuclease digestion, thermal cycle amplification, and hybridization techniques.

Storage and Stability

All components of the EZgeneTM Insect gDNA Kit, except the Proteinase K and RNase A should be stored at 22°C-25°C. Once reconstituted in water, Proteinase K should be stored -20°C. Under at these conditions, DNA has successfully been purified and used for PCR after 12 months of storage. Store RNase A at 4 °C. All EZgene™ Insect gDNA Kit components are guaranteed for at least 12 months from the date of purchase when stored at 22°C-25°C

Ordering Info

DESCRIPTION	Cat.No.	REACTION
GMinsect gDNA Kit	DPB44-50	50

Molecular Biology Kits

RNA Purification Kits

- *Spin column format and easy to use*
- *High yield and high purity*
- *Speedy operation procedure*

Product Info

Product	Cat. No.	Sample	RNA Recovery	Format	Time
Total RNA	TR01	Animal cells and tissues, bacteria	~100 μg	Spin column	1 hr
Plant Total RNA	TR02	Herb and woody plants, fungi	~100 μg	Spin column	1 hr
Human Blood RNA	TR03	Human whole blood	Up to 3 μg	Spin column	1 hr
Bacterial	TRB04-50	Gram-positive (*B. subtilis*) Or Gram-negative (*E. coli*) Bacteria	~30 μg	Spin column	30min
Virus RNA	TRB06-50	Plasma, serum and other cell-free materials	For 20 times RT-PCR or RT-qPCR	Spin column	1 hr
FFPE RNA	TRB08-50	Formalin-fixed and paraffin-embedded tissue sections	For 20 times RT-PCR or RT-qPCR	Spin column	1.5 hrs
Micro RNA	TRT09	Micro amounts of tissues and cell samples	For 20 times RT-PCR or RT-qPCR	Spin column	30 min

Single Reagent Products

Product	Cat. No.	Sample
Trisolution plus Reagent	TS-100-Plus TS-200-Plus	Cells, tissues, bacteria, plant, yeast and virus

Total RNA Purification Kit

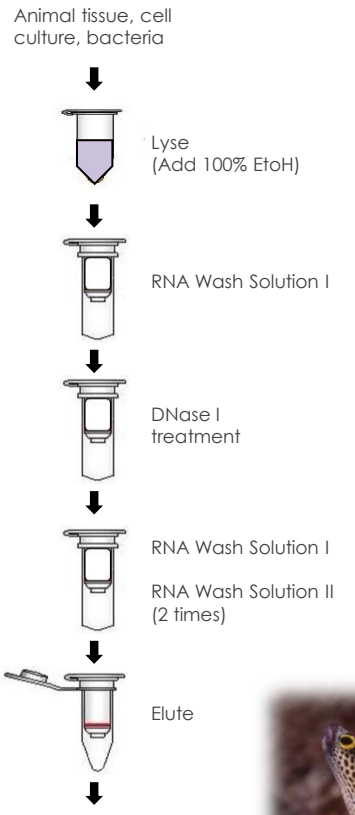
Features

• Yield:
10~100 µg ultra pure total RNA depending on the sample type and sample size.

• Purity:
High-quality total RNA is purified using spin column format. RNase-free DNase I is included in the kit to digest contaminating gDNA in RNA preparation.

• Fast:
RNA can be obtained within an hour.

• Safe:
No phenol / chloroform extraction or alcohol/ isopropanol precipitation.



Description

Total RNA Purification Kit provides specific buffer system and high-capacity binding glass fiber matrix column to purify high purity RNA from bacteria, animal/plant tissues and cells.

Application

Northern blotting, RT-qPCR, poly(A) RNA selection, and RNase protection assays.

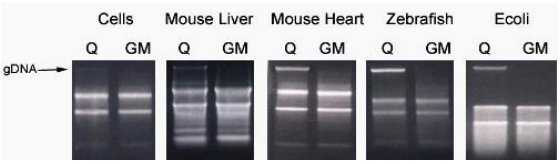


Figure 1. Non-denaturing gel electrophoresis analysis of total RNA purified from various samples using GeneMark Total RNA Purification Kit and related kit from supplier Q.
The RNA purified using related kit from supplier Q contains large amount of genomic DNA contamination.

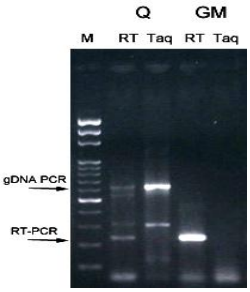
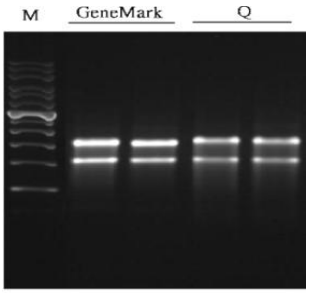


Figure 2. RT-PCR results of RNA purified using GeneMark Total RNA Purification Kit and related kit from supplier Q.
Total RNA was purified from zebrafish, and zebrafish EF-1α gene was amplified. Genomic DNA contamination is observed in RNA extracted using related kit from supplier Q by Taq only control.



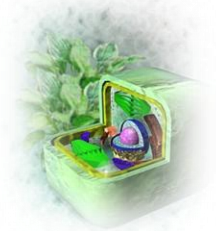
Brand	A260/A280	Total Yield (µg) (average)
GeneMark	1.90 1.97	37.8
Q	2.00 1.85	31.85

Figure 3. Total RNA of *E.coli* DH5α purified using GM Total RNA Purification Kit and purification kit from supplier Q.
Total RNA of *E.coli* DH5α was purified from 1 ml culture and eluted in 50 µl RNase-free H_2O. 2.5 µl of RNA were loaded onto each lane of agarose gel.
GeneMark: TR01 | Q: supplier Q

Ordering Info

DESCRIPTION	Cat.No.	REACTION
Total RNA Purification Kit	TR01	50
Total RNA Purification Kit	TR01-150	150

Plant Total RNA Purification Kit



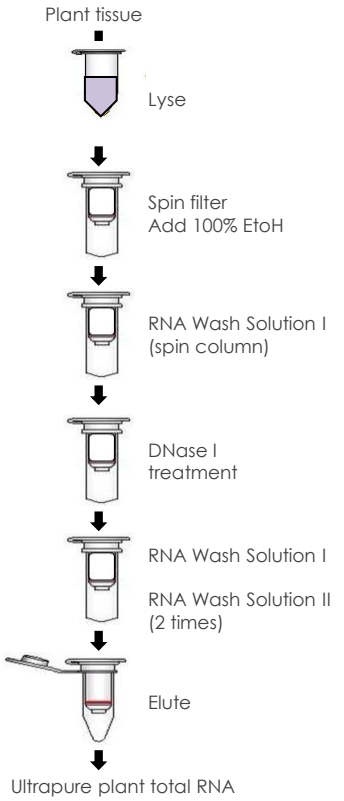
Features

• Yield:
10~100 µg ultra pure total RNA depending on the sample type and sample size.

• Purity:
High-quality total RNA is purified using glass fiber matrix column. Plant contaminants such as polyphenolics and polysaccharides can be removed by the kit; DNase I is also included to digest contaminating DNA during RNA preparation.

• Fast:
RNA can be obtained within an hour.

• Safe:
No phenol/chloroform extraction or alcohol/ isopropanol precipitation.



Description

Plant Total RNA Purification Kit is designed for herbs, woody plants, succulent plants, and fungi. **This kit provides two alternative lysis system, Lysis solution A (guanidine thiocyanate) and Lysis solution B (SDS/anti-oxifants).** Choose the most suitable lysis system combining with high-capacity binding glass fiber matrix column to purify the total RNA from a wide variety of plant and fungal samples.

Application

Northern blotting, RT-qPCR, poly(A) RNA selection, and RNase protection assays.

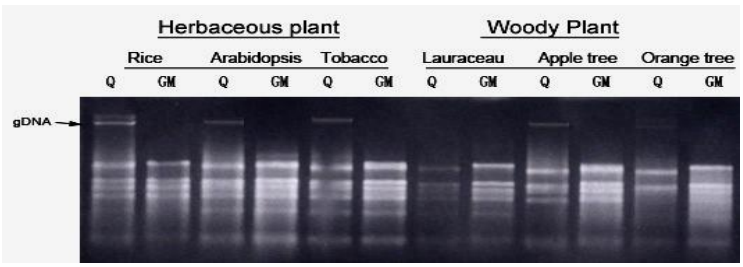


Figure 1. Non-denaturing gel electrophoresis analysis of the total RNA purified from various plant leaf samples using GeneMark Plant Total RNA Purification Kit with Lysis Solution B system, and related kit from supplier Q.
The RNA purified using related kit from supplier Q contains large amount of genomic DNA contamination.

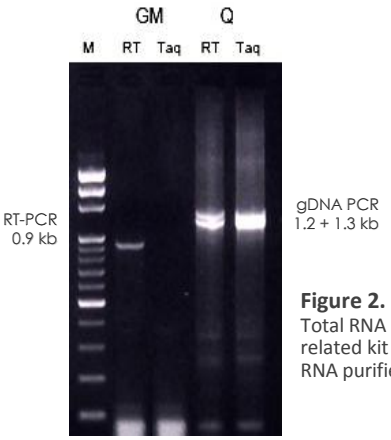


Figure 2. Gel electrophoresis analysis of RT-PCR of rice actin gene.
Total RNA was purified using GeneMark Plant Total RNA Purification Kit and related kit from supplier Q. Genomic DNA contamination was observed from RNA purified using kit from supplier Q in both RT and Taq only control.

Ordering Info

DESCRIPTION	Cat.No.	REACTION
Plant Total RNA Purification Kit	TR02	50
Plant Total RNA Purification Kit	TR02-150	150

Molecular Biology Kits

Human Blood RNA Purification Kit

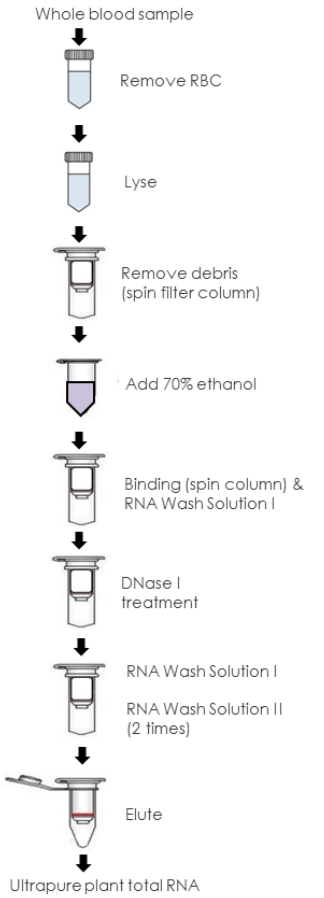
Features

• Yield:
Up to 3 µg ultra pure total RNA depending on the sample volume.

• Purity:
High-quality total RNA is purified using spin column format. RNase-free DNase I is included in the kit to digest contaminating gDNA in RNA preparation.

• Fast:
RNA can be obtained within an hour.

• Safe:
No phenol/chloroform extraction or alcohol/ isopropanol precipitation.

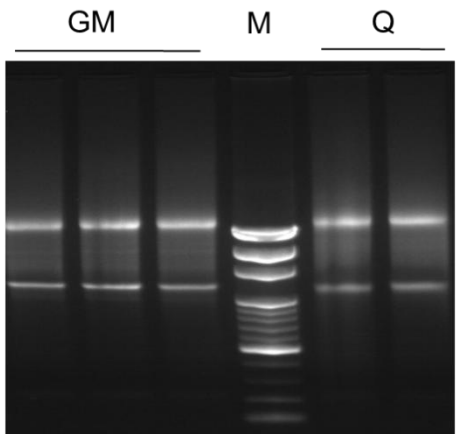


Description

The Human Blood RNA Purification Kit provides a rapid, simple and effective approach to isolate the total RNA from human whole blood. The process is based on a spin column format. RNA shorter than 200 nt, such as 5S RNA, tRNA and microRNA, do not recover efficiently with this system.

Application

Northern blotting, RT-qPCR, poly(A) RNA selection, and RNase protection assays.



161.2	152.4	156.2	ug/ mL	146.5	201.8
1.88	1.85	1.87	260/280	1.82	1.75
1.77	2.09	2.05	260/230	1.21	1.95

Figure 1. Non-denaturing gel electrophoresis analysis of total RNA purified from 1.5 ml human whole blood using GeneMark Human Blood RNA Purification Kit and related kit from supplier Q.
10 µl of 30 µl eluates were loaded.
M: Marker
GM: GeneMark Human Blood RNA Purification Kit
Q: Supplier Q

Ordering Info

DESCRIPTION	Cat.No.	REACTION
Human Blood RNA Purification Kit	TR03	50
Human Blood RNA Purification Kit	TR03-150	150

Molecular Biology Kits

GMpure Bacteria RNA Kit

Description

The Gmpure Bacteria RNA kit provides an easy and fast method for isolating total RNA from Gram-positive (*B. subtilis*) Or Gram-negative (*E. coli*) Bacteria within 30 min. Only trace genomic DNA exists in the purified RNA, which can be eliminated by DNase I treatment (See detail in the protocol) when it is necessary.

Application

Northern blotting, RT-qPCR, poly(A) RNA selection, and RNase protection assays.

Storage and Stability

DNase I (optional) and lysozyme should be stored at -20℃. All other components can be stored at room temperature. All kit components are guaranteed for 12 monthsr from the date of purchasing.

Features

Features

• sample:

•Gram-positive (*B. subtilis*) Or Gram-negative (*E. coli*) Bacteria

•Yield:
~30 µg ultra pure total RNA depending on the sample type and sample size.

• Purity:
High-quality total RNA is purified using spin column format. RNase-free DNase I is included in the kit to digest contaminating gDNA in RNA preparation.

• Fast:
RNA can be obtained within 30 min.

• Safe:
No phenol / chloroform extraction or alcohol/ isopropanol precipitation.

Ordering Info

DESCRIPTION	Cat.No.	REACTION
GMpure Bacteria RNA kit	TR04-50	50

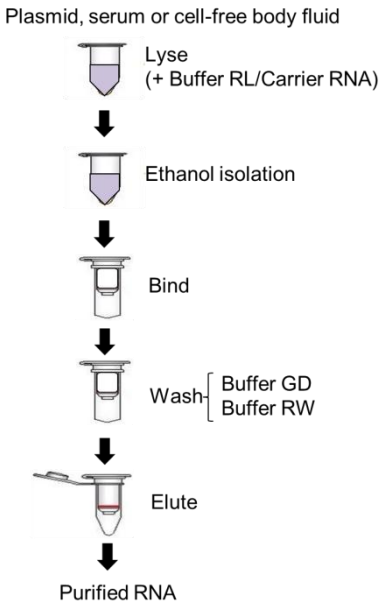
GMpure Virus RNA Kit

Features

•Purity:
High-quality total RNA is purified using spin column format. The obtained RNA is free from proteins and nuclease contamination.

• Fast:
RNA can be obtained within one hour.

• Safe:
No phenol/chloroform extraction or alcohol/ isopropanol precipitation.



Description

The GMpure Virus RNA Kit provides a fast, simple and cost-effective virus RNA purification method for virus RNA purification from plasma, serum and other cell-free materials. Carrier RNA is supplied in the kit to enhance binding of nucleic acids to the spin column membrane. The GMpure Virus RNA Kit is suitable for various kinds of virus RNA purification, and the high-quality RNA can be obtained by using this kit.

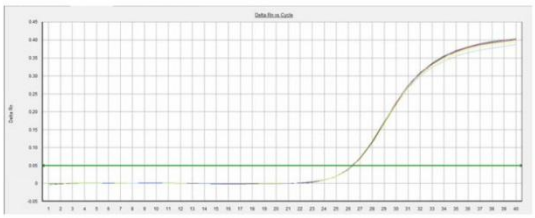
Application

Enzymatic reactions, PCR, Southern blot and other applications.

A

Sample	Duplicate	CT value	Average
1	duplicate 1	19.71	19.70
	duplicate 2	19.68	
2	duplicate 1	19.8	19.78
	duplicate 2	19.75	
3	duplicate 1	19.49	19.53
	duplicate 2	19.56	
NTC		None	-
Average		19.67	

B

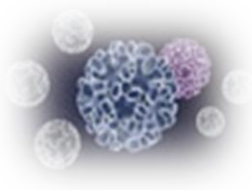


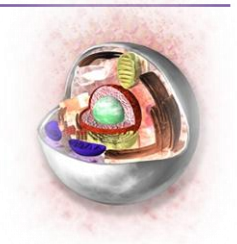
Sample	Duplicate	CT value	Average
1	duplicate 1	26.44	26.40
	duplicate 2	26.35	
2	duplicate 1	26.37	26.36
	duplicate 2	26.35	
3	duplicate 1	26.33	26.35
	duplicate 2	26.37	
NTC		None	-
Average			26.37

Figure 1. Real-time PCR results.
RNA was purified from 200 µl of Avian influenza virus standard antigen that was diluted (A) 100 times or (B) 10,000 times with GMpure Virus RNA Kit. Purified RNA was used as template in RT-qPCR detection.

Ordering Info

DESCRIPTION	Cat.No.	REACTION
GMpure Virus RNA Kit	TRT06-50	50





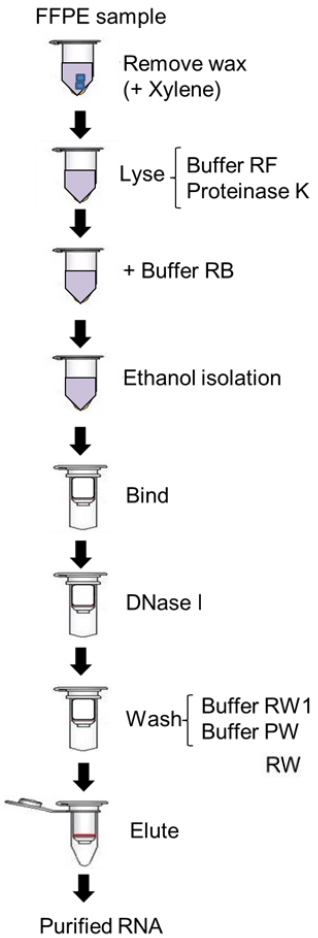
Molecular Biology Kits

GMpure FFPE RNA Isolation Kit

Features

• Purity:
High-quality total RNA is purified using spin column format. RNase-free DNase I is included in the kit to digest contaminating gDNA in RNA preparation.

• Fast:
RNA can be obtained within 1.5 hours.



Description

The GMpure FFPE RNA Isolation Kit is specially designed for purifying total RNA from formalin-fixed and paraffin-embedded tissue sections. Due to fixation and embedding conditions, nucleic acids in FFPE samples are usually heavily fragmented and chemically modified by formaldehyde. The kit provides special lysis and incubation conditions to reverse formaldehyde modification of RNA. In addition, the lysis buffer efficiently releases RNA from tissue sections while avoiding further RNA degradation.

Application

Used for downstream experiments such as RT-PCR and RT-qPCR.

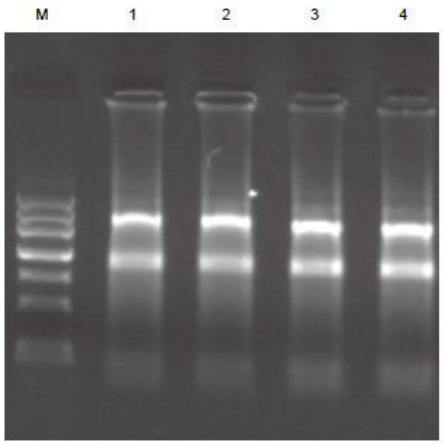
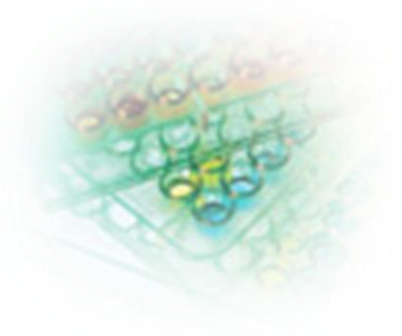


Figure 1. RNA extracted from paraffin-embedded rat liver sample using Gmpure FFPE RNA Isolation Kit.
15 mg of rat liver sample was used. 8 µl of 50 µl eluate was loaded per lane.
M: Marker

Ordering Info

DESCRIPTION	Cat.No.	REACTION
GMpure FFPE RNA Isolation Kit	TRT08-50	50



Molecular Biology Kits

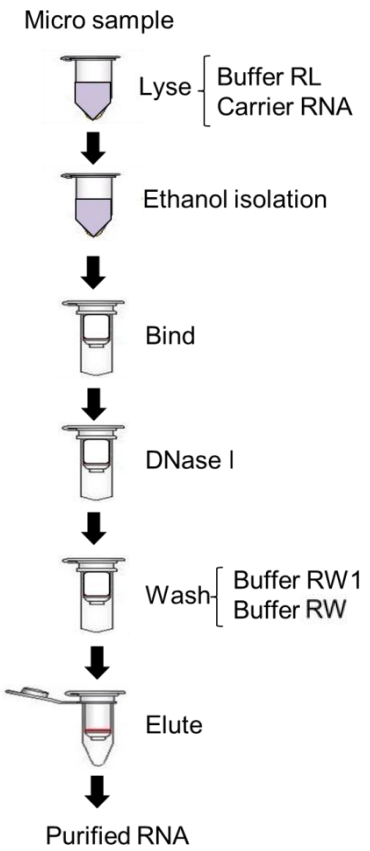
GMpure Micro RNA Kit

Features

• Purity:
High-quality total RNA is purified using spin column format. RNase-free DNase I is included in the kit to digest contaminating gDNA in RNA preparation.

• Fast:
RNA can be obtained within 30 min.

• Save:
No phenol/chloroform extraction, no LiCl and ethanol precipitation, no gradients centrifugation.



Description

The GMpure Micro RNA Kit provides a fast, simple and cost-effective method for purification of total RNA from a wide range of micro samples using effective spin column and unique buffer system. Carrier RNA is supplied in the kit to enhance binding of nucleic acids to the spin column membrane. The obtained RNA has high-purity and is free from protein contamination.

Application

RT-PCR, RT-qPCR, Northern blot, Dot blot, Poly A screening, *in vitro* translation, RNase protection analysis and molecular cloning.

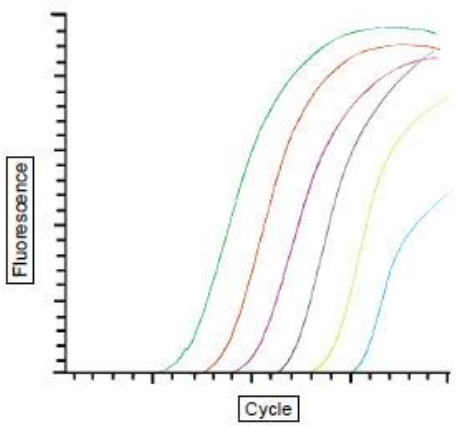
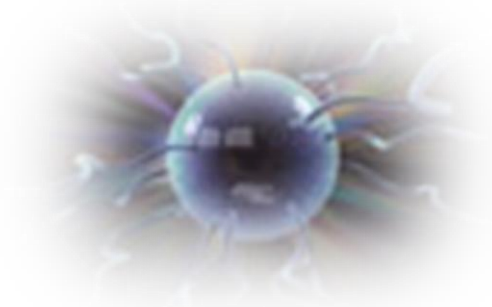


Figure 1. RT-qPCR result from purified RNA. Total RNA purified from Hela cells (1 x 10^6, 1 x 10^5, 1 x 10^4, 1 x 10^3, 1 x 10^2, 10 cells) using GMpure Micro RNA Kit.

Ordering Info

DESCRIPTION	Cat.No.	REACTION
GMpure Micro RNA Kit	TRT09-50	50



TriSolution Plus Reagent

Features

• Convenient:
Suitable for a wide range of sample types and sample sizes.

• Economic:
One solution for purification of RNA, DNA and proteins.

Description

TriSolution Plus Reagent is a mixture of phenol, guanidium thiocynate, buffers and stabilizers developed for the simultaneously isolation of **total RNA, DNA and proteins** from animal and plant tissues, cells and bacteria culture. The entire procedure for total RNA isolation is an improved single-step method developed by Chomczynski and Sacchi. After homogenization of sample and chloroform extraction, three phases are formed (aqueous phase, interphase and organic phase). RNA can be precipitated by isopropanol from aqueous phase, DNA can be recovered by ethanol precipitation from interphase, and proteins are precipitated with isopropanol from organic phase. The reagent also includes a bottle of **PS & PG Removal Solution**, which can eliminate polysaccharides and proteoglycans contamination, by which the RNA can be dissolved easier and purer for RT-PCR and northern blot application.

Application

RNA isolated can be used for general molecular experiments such as Northern analysis, dot hybridization, poly A selection, *in vitro* translation, RNase protection assays, RT-PCR.

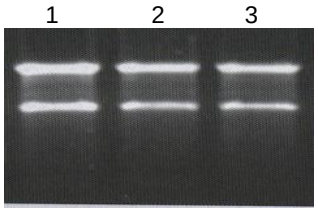


Figure 1. RNA purified from rat kidney using TriSolution Plus Reagent.
Total RNA was purified from rat kidney stored under different conditions.
Lane 1: stored at 37℃ for 24 hr in RNAfter (GeneMark Cat.No.: RA100)
Lane 2: stored at 4℃ for 30 days in RNAfter.
Lane 3: stored at -70℃ for 30 days without RNAfter.

Ordering Info

DESCRIPTION	Cat.No.	SIZE
TriSolution Plus Reagent	TS-100-Plus	100 ml
TriSolution Plus Reagent	TS-200-Plus	200 ml

Molecular Biology Kits

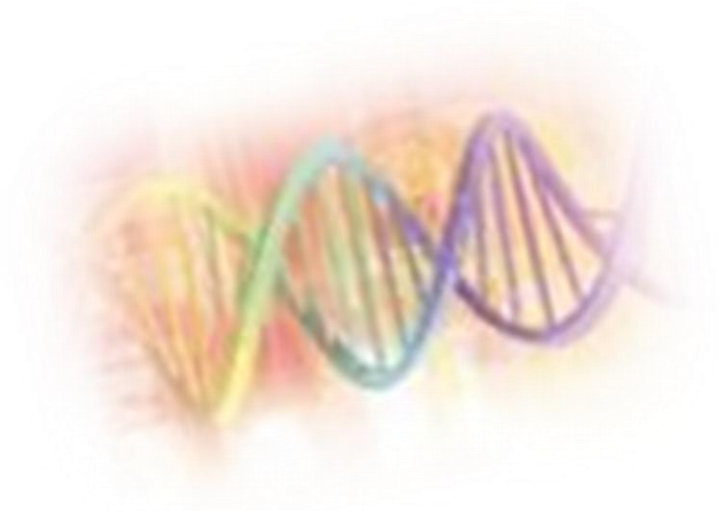
DNA/RNA Isolation Kits

- *Simultaneous purification of DNA and RNA*
- *Spin column format and easy to use*
- *Speedy operation procedure*

Product Info

New

Product	Cat. No.	Sample	Format
GMpure Virus DNA/RNA Kit	GDR-V01	Plasma, serum and other cell-free body fluids	Spin Column
GMblood Viral DNA/RNA Kit	GDB-V01		
GMpure Tissue&Cell DNA-RNA Kit	GDR-V02	A wide range of animal cells and tissues	Spin Column



Molecular Biology Kits

GMpure Virus DNA/RNA Kit

Description

The GMpure Virus DNA/RNA Kit provides a fast, simple and cost-effective method for simultaneous purification of viral DNA and RNA, and it is suitable for plasma, serum and cell-free body fluids. The purified DNA/RNA is immediately ready for use.

Application

Enzymatic reactions, RT-PCR, Southern blotting and other downstream applications.

Features

•Yield:
Carrier RNA is supplied in the kit to enhance binding of nucleic acids to the spin column membrane.

•Safe:
Phenol extraction and ethanol precipitation are not required.

Ordering Info

DESCRIPTION	Cat.No.	REACTION
GMpure Virus DNA/RNA Kit	GDR-V01	50

GMpure Tissue & Cell DNA-RNA Kit

Description

The GMpure Tissue & Cell DNA-RNA Kit is designed for extracting both genomic DNA and total RNA simultaneously from the same animal cells or tissue samples. The kit is compatible with a wide range of animal cells and tissues. The purified DNA and RNA are eluted separately and ready to use in downstream applications.

Application

PCR, RT-PCR and other downstream applications.

Features

•Fast:
The simple process can be done within 40~50 min.

•Safe:
Phenol extraction and ethanol precipitation are not required.

Ordering Info

DESCRIPTION	Cat.No.	REACTION
GMpure Tissue & Cell DNA-RNA Kit	GDR-V02	50

Molecular Biology Kits

GMblood Virus DNA/RNA Kit

Features

•Yield:
Carrier RNA is supplied in the kit to enhance binding of nucleic acids to the spin column membrane.

•Safe:
Phenol extraction and ethanol precipitation are not required.

Description

The GMblooMure Virus DNA/RNA Kit provides an easy and reliable method for isolating total viral DNA/RNA from plasma, serum, whole blood, urine and cell culture supernatant. This procedure has been tested for isolating nucleic acids from Hepatitis A, Hepatitis C and HIV.

Application

The isolated DNA/RNA can be used for PCR, RT-PCR and other downstream applications. reactions, RT-PCR, Southern blotting and other downstream applications.

Ordering Info

DESCRIPTION	Cat.No.	REACTION
GMblood Virus DNA/RNA Kit	GDB-V01	50

Molecular Biology Kits

96 well DNA & RNA Purification Kits

- *High-throughput*
- *Rapid*
- *Economical*
- *High yield and high purity*

Product Info

Cat. No.	Description	Package
DP01-9602 DP01-9608	96 well Plasmid Miniprep Purification Kit	2 x 96 well 8 x 96 well
DP034P-9602 DP034P-9608	96 well Plus DNA Clean/Extraction Kit	2 x 96 well 8 x 96 well
DP021-9602 DP021-9608	96 well Tissue & Cell Genomic DNA Purification Kit	2 x 96 well 8 x 96 well
DP022-9602 DP022-9608	96 well Plant Genomic DNA Purification Kit	2 x 96 well 8 x 96 well
DP023P-9602 DP023P-9608	96 well Plus Blood Genomic DNA Purification Kit	2 x 96 well 8 x 96 well
TR01-9602 TR01-9608	96 well Total RNA Purification Kit	2 x 96 well 8 x 96 well
TR02-9602 TR02-9608	96 well Plant Total RNA Purification Kit	2 x 96 well 8 x 96 well

Cat.No.: Vac-400

Cat.No.: WelVac-210w

Cat.No.: WelVac-210

Molecular Biology Kits

96 well Plasmid Miniprep Purification Kit

Features

• Fast:
High throughput procedure, 96 wells at once.

• Yield:
Obtain 8~10 µg of plasmid DNA from 2 ml culture per well.

• High Purity
OD (260/280) > 1.8 per well.

Description

The 96 well Plasmid Miniprep Purification Kit provides a simple, fast, economic and automated high-throughput method to purify plasmid DNA from bacteria cultures. The procedure processes using both vacuum-driven transfer and centrifugation, and about 8 to10 µg plasmid DNA can be obtained from 2 ml culture for each well. This 96 well format kit is ideal for use in high-throughput automated sequencing projects.

Application

Purification of plasmid DNA from colonies. Purified plasmid DNA is suitable for subsequent applications such as cloning, enzyme digestion, ligation, transcription and sequencing.

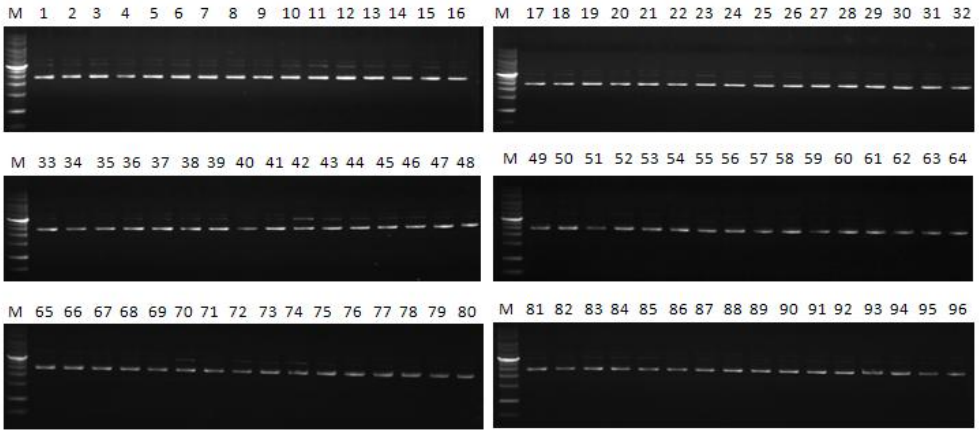


Figure 1. Purification of pUC18 using 96 well Plasmid Miniprep Purification Kit.
Lane M: GenKB LC DNA Ladder (GeneMark)
Lane 1-96: Plasmid DNA purification from 96 x 2 ml culture of pUC18 using 96 well Plasmid Purification Kit

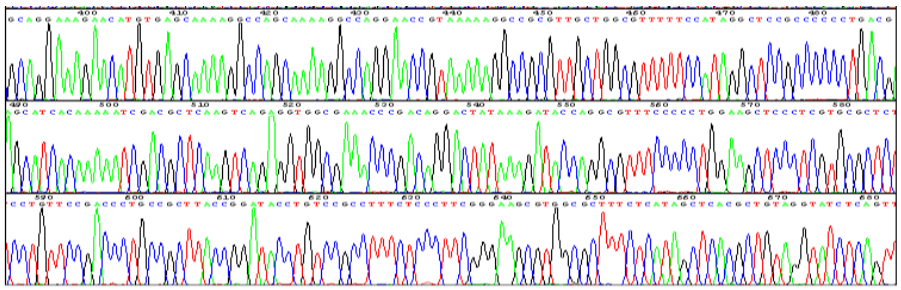
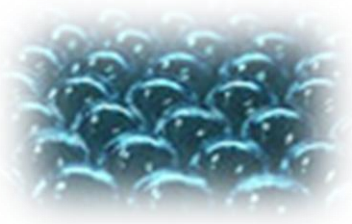


Figure 2. The sequencing data of plasmid DNA extracted using 96 well Plasmid Miniprep Purification Kit.

Ordering Info

DESCRIPTION	Cat.No.	PACKAGE
96 well Plasmid Miniprep Purification Kit	DP01-9602	2 x 96 well
96 well Plasmid Miniprep Purification Kit	DP01-9608	8 x 96 well



96 well Plus DNA Clean/Extraction Kit

Features

• Fast:
High throughput procedure, 96 wells at once.

• Capacity:
8~10 µg of DNA from 50 µl DNA sample for each well.

• High Purity
OD (260/280) > 1.8 per well.

Description

The 96 well Plus DNA Clean/Extraction Kit provides a simple, efficient and automated high-throughput method to purify DNA fragments from PCR products or other enzymatic reactions such as enzyme digestion, DNA ligation and probe labeling. The procedure processes using both vacuum-driven transfer and centrifugation, and can obtain 8 to10 µg DNA fragments from 50 µl DNA sample for each well.

Application

DNA clean-up from enzymatic reactions. Purified DNA is suitable for use in subsequent applications such as cloning, enzyme digestion, ligation, transcription and sequencing.

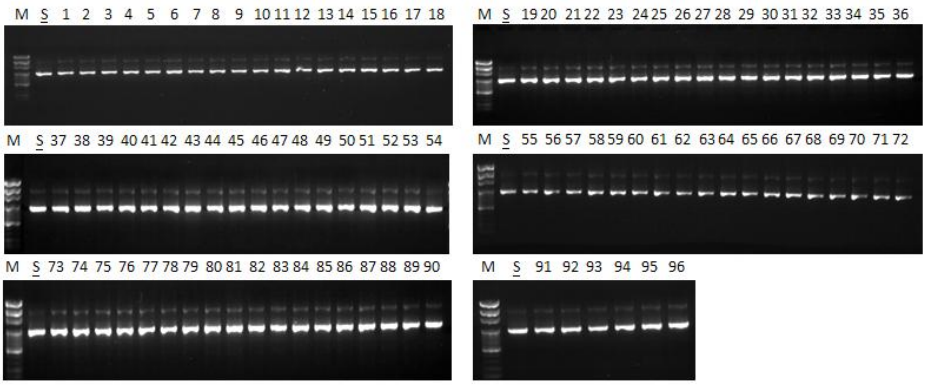


Figure 1. DNA clean up of pUC18 plasmid using 96 well Plus DNA Clean/Extraction Kit.
Lane M: Gen100 DNA Ladder
Lane 1-96: pUC18 plasmid DNA was extracted using 96 well Plasmid Purification Kit, and further purified using 96 well Plus DNA Clean/Extraction Kit to produce ultra pure DNA suitable for most subsequent applications.

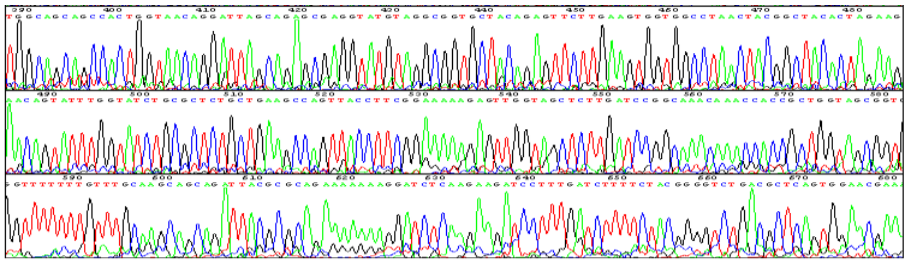


Figure 2. The sequencing data of DNA extracted by 96 well Plus DNA Clean/Extraction Kit.

Ordering Info

DESCRIPTION	Cat.No.	PACKAGE
96 well Plus DNA Clean/Extraction Kit	DP034P-9602	2 x 96 well
96 well Plus DNA Clean/Extraction Kit	DP034P-9608	8 x 96 well

96 well Tissue & Cell Genomic DNA Purification Kit

Features

• Fast:
High throughput procedure, 96 wells at once.

• Yield:
8~16 µg of genomic DNA from 10 mg of tissue per well.

• High Purity
OD (260/280) > 1.8 per well.

Description

The 96 well Tissue & Cell Genomic DNA Purification Kit provides a rapid, simple and effective approach to isolate the genomic DNA from various animal tissues, cultured cells and bacteria. The procedure processes using both vacuum-driven transfer and centrifugation, and yields 8 to 16 µg genomic DNA from 10 mg of tissue for each well.

Application

Purified genomic DNA is suitable for use in subsequent applications such as PCR, Real-time PCR, Southern blot, DNA hybridization, DNA sequencing, restriction digestion and cloning.

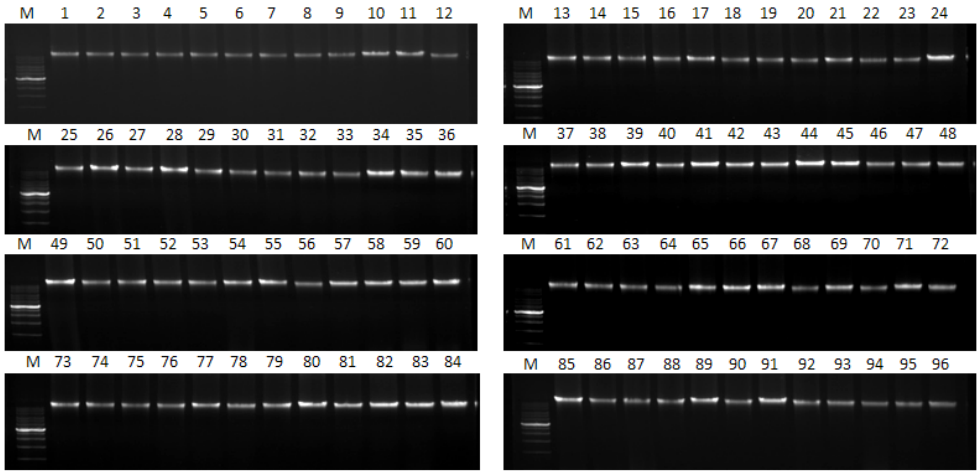


Figure 1. Purification of genomic DNA of Zebrafish tissue by 96 well Tissue & Cell Genomic DNA Purification Kit.
Lane M: GenKB LC DNA Ladder
Lane 1-96: Genomic DNA purification from 96 x 10 mg of Zebrafish tissue using 96 well Tissue & Cell Genomic DNA Purification Kit.

Ordering Info

DESCRIPTION	Cat.No.	PACKAGE
96 well Tissue & Cell Genomic DNA Purification Kit	DP021-9602	2 x 96 well
96 well Tissue & Cell Genomic DNA Purification Kit	DP021-9608	8 x 96 well

96 well Plant Genomic DNA Purification Kit

Features

• Fast:
High throughput procedure, 96 wells at once.

• Yield:
1.5~3 μg of genomic DNA from 25 mg of tissue per well.

• High Purity
OD (260/280) > 1.8 per well.

Description

The 96 well Plant Genomic DNA Purification Kit is designed for automated high-throughput and fast isolation of genomic DNA from various kinds of plants and fungi samples, especially for polysaccharide-rich plants and for plant tissues rich in secondary metabolites. The procedure processes using both vacuum-driven transfer and centrifugation, and yields 1.5 to 3 μg genomic DNA from 25 mg of tissue for each well.

Application

Purified DNA is suitable for use in subsequent applications such as PCR, Real-time PCR, Southern blot, DNA hybridization, DNA sequencing, restriction digestion and cloning.

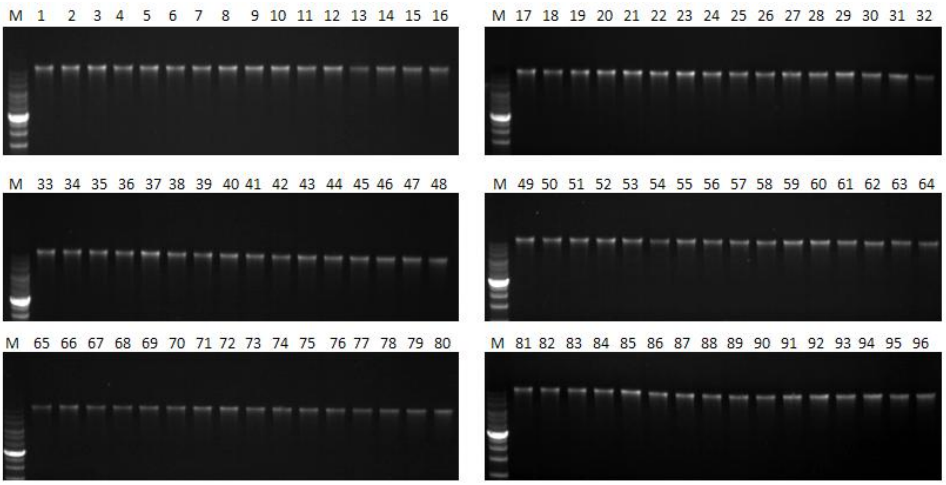


Figure 1.Purification of genomic DNA of rice leaf by 96 well Plant genomic DNA Purification Kit.
Lane M: GenKB LC DNA Ladder
Lane 1-96: Genomic DNA purification from 96 x 25 mg rice leaf tissue by 96 well Plant Genomic DNA Purification Kit.

Ordering Info

DESCRIPTION	Cat.No.	PACKAGE
96 well Plant Genomic DNA Purification Kit	DP022-9602	2 x 96 well
96 well Plant Genomic DNA Purification Kit	DP022-9608	8 x 96 well

96 well Plus Blood Genomic DNA Purification Kit

Features

• Fast:
High throughput procedure, 96 wells at once.

• Yield:
1.5~3 μg of genomic DNA from 200 μl of blood per well.

• High Purity
OD (260/280) > 1.8 per well.

Description

The 96 well Plus Blood Genomic DNA Purification Kit is designed for automated high-throughput and fast isolation of genomic DNA from blood samples such as fresh or frozen whole blood and serum. The procedure processes using both vacuum-driven transfer and centrifugation, and 200 μl blood per well is sufficient to obtain 1.5 to 3 μg of blood genomic DNA.

Application

Purified DNA is suitable for use in subsequent applications such as PCR, Real-time PCR, DNA sequencing, Southern blot, DNA hybridization, restriction digestion and cloning.

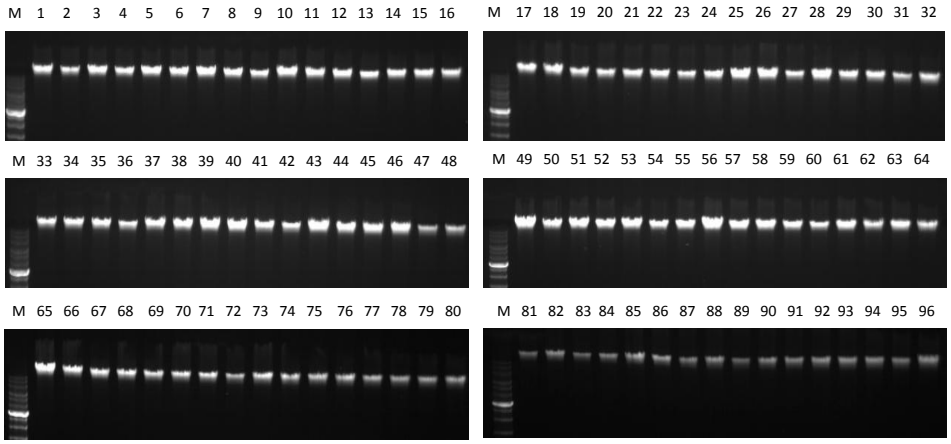
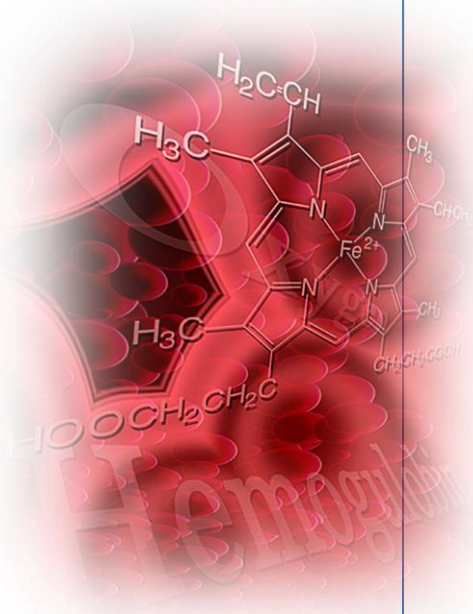


Figure 1. Purification of genomic DNA of human blood by 96 well Plus Blood Genomic DNA Purification Kit.
Lane M: GenKB LC DNA Ladder
Lane 1-96: Genomic DNA purification from 96 x 200 μl of human blood by 96 well Plus Blood Genomic DNA Purification Kit.



Ordering Info

DESCRIPTION	Cat.No.	PACKAGE
96 well Plus Blood Genomic DNA Purification Kit	DP023P-9602	2 x 96 well
96 well Plus Blood Genomic DNA Purification Kit	DP023P-9608	8 x 96 well

96 well Total RNA Purification Kit

Features

• Fast:
High throughput procedure, 96 wells at once.

• Yield:
9~30 μg of total RNA can be obtained from 1 ml sample per well.

• High Purity
OD (260/280) > 1.8 per well.

Description

The 96 well Total RNA Purification Kit is designed for automated high-throughput isolation of total RNA from bacteria, viruses, animal tissues, cultured cells and various samples. The procedure processes using both vacuum-driven transfer and centrifugation, and 9 to 30 μg of total RNA can be obtained from each well depending on sample types.

Application

Purified RNA is suitable for use in subsequent applications such as RT-PCR, RT-qPCR, differential display, cDNA synthesis and RNase protection assays.

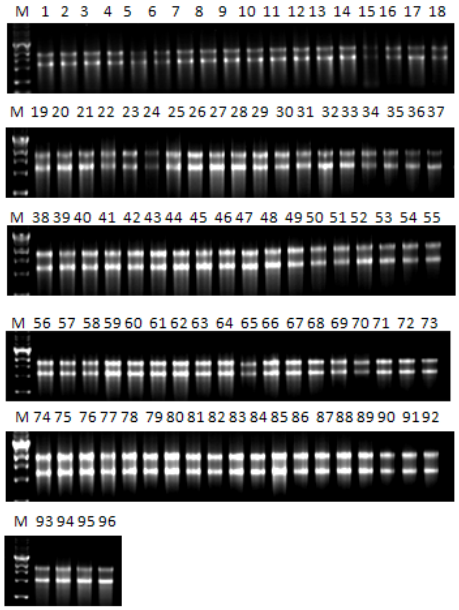


Figure 1. Total RNA purification from 1 ml of *E. coli* by 96 well Total RNA Purification Kit.
E.coli total RNA purified using 96 well Total RNA Purification Kit was loaded and analyzed with 0.8 % agarose gel.

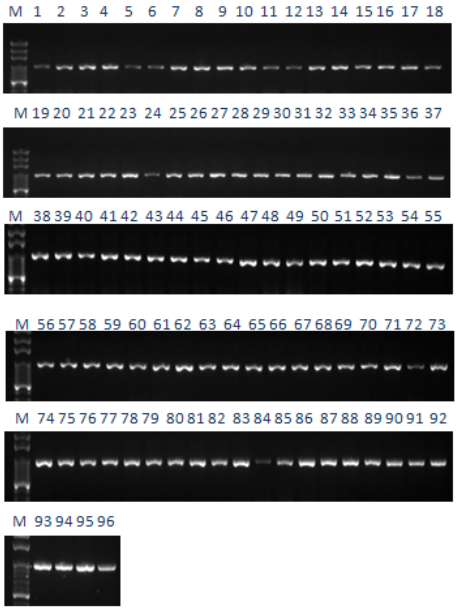
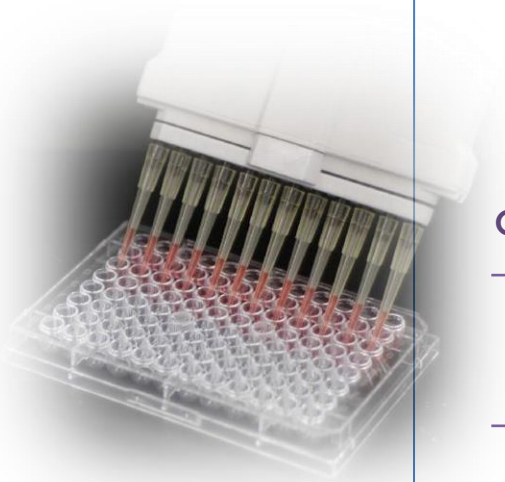


Figure 2. RT-PCR test of total RNA purified using 96 well Total RNA Purification Kit.
RT-PCR was performed for total RNA purified using 96 well Total RNA Purification Kit. Figure 2 indicated RNA quality suitable for most subsequent applications.



Ordering Info

DESCRIPTION	Cat.No.	PACKAGE
96 well Total RNA Purification Kit	TR01-9602	2 x 96 well
96 well Total RNA Purification Kit	TR01-9608	8 x 96 well

Molecular Biology Kits

96 well Plant Total RNA Purification Kit

Features

• Fast:
High throughput procedure, 96 wells at once.

• Yield:
6~13 µg of plant total RNA can be obtained from 50 mg plant sample per well.

• High Purity
OD (260/280) > 1.8 per well.

Description

The 96 well Plant Total RNA Purification Kit is designed for automated high-throughput and fast isolation of total RNA from herbs, woody plants, succulent plants and fungi samples. The procedure processes using both vacuum-driven transfer and centrifugation, and 50 mg of plant tissue is sufficient to obtain 6 to 13 µg of plant total RNA from each well.

Application

Purified RNA is suitable for use in subsequent applications such as RT-PCR, RT-qPCR, differential display, cDNA synthesis and RNase protection assays.

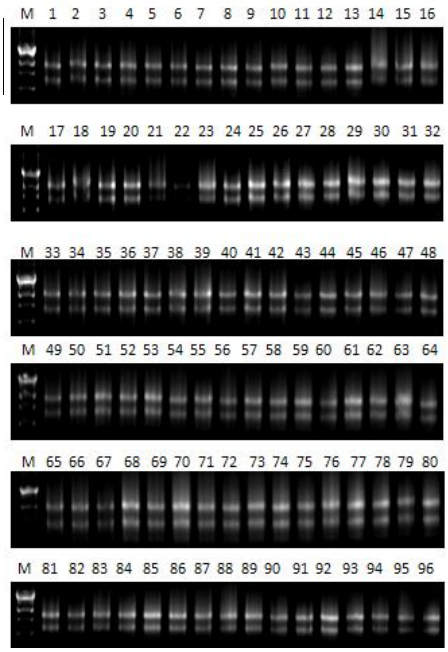


Figure 1. Plant total RNA purification from 50 mg of rice leaf by 96 well Plant Total RNA Purification Kit.
Rice total RNA was purified using 96 well Plant Total RNA Purification Kit and analyzed with 0.8 % agarose gel.

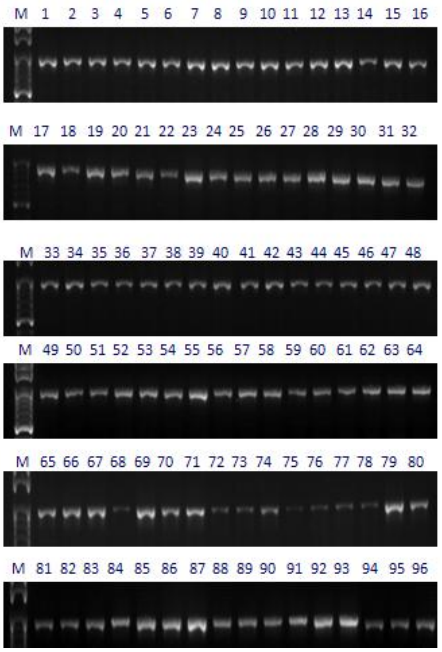


Figure 2. RT-PCR test of plant total RNA purified using 96 well Plant Total RNA Purification Kit.
RT-PCR was performed for rice total RNA purified using 96 well Plant Total RNA Purification Kit. Figure 2 indicated RNA quality suitable for most subsequent applications.

Ordering Info

DESCRIPTION	Cat.No.	PACKAGE
96 well Plant Total RNA Purification Kit	TR02-9602	2 x 96 well
96 well Plant Total RNA Purification Kit	TR02-9608	8 x 96 well

PCR Related Products

A. PCR Polymerases.....67

B. PCR Master Mix.....74

C. Direct PCR Kits..... 85

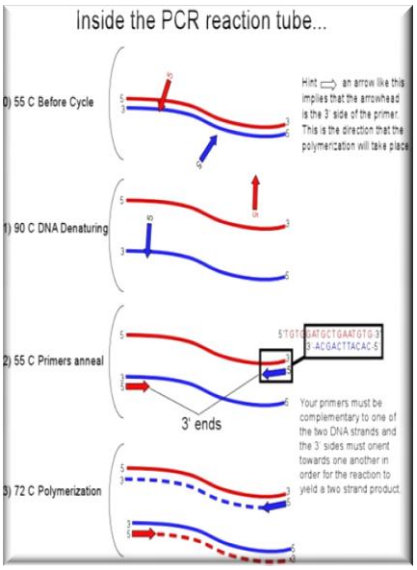
D. Real-Time PCR Master Mix.....93

E. RT and RT-PCR/RT-qPCR Kits.....98

F. PCR Cloning Kits & DNA Ligation Kits.....116

G. Mutagenesis Kit & *In Vitro* Transcription Kit.....122

H. PCR Machine.....125



PCR Polymerases

Description

Product Name	GenTaq DNA Polymerase	GenTaq Plus DNA Polymerase	GenHot Taq DNA Polymerase	GenFast Taq DNA Polymerase	gmPfu DNA Polymerase	LongFast Pfu DNA Polymerase	GenBest Taq DNA Polymerase
Polymerase	GenTaq	GenTaq + Pfu	Taq + Mab	Modified Taq	Modified Pfu	Modified Pfu	Modified Pfu
Proofreading	No	Yes	No	No	Yes	Yes	Yes
Product Overhang	3'-A	3'-A	3'-A	3'-A	Blunt	Blunt	Blunt
Extension	1 min/kb	1 min/kb	1 min/kb	15 sec/kb	1 min/kb	15-30 sec/kb	10~30 sec/kb
PCR product size	Up to 14 kb	Up to 14 kb	Up to 6 kb	Up to 15 kb	Up to 10 kb	Up to 10 KB	Up to 20 KB
Application	Detection	Detection Cloning Expression	Detection Multiplex PCR	Fast PCR Detection Multiplex PCR	Cloning Expression Mutagenesis	Fast PCR Cloning Expression Mutagenesis	Fast PCR Cloning Expression Mutagenesis

Product Info

	Product Name	Cat #
PCR Polymerase	GenTaq DNA Polymerase	GM008
	GenTaq Plus DNA Polymerase	GM008P
	GenHot Taq DNA Polymerase	GM008HS
	GenFast Taq DNA Polymerase	GM008F
	gmPfu DNA Polymerase	GPU425
	LongFast Pfu DNA Polymerase	GPU4
	BastTaq DNA Polymerase	GM008B

PCR Related Products

GenTaq DNA Polymerase

Features

• Thermostable:
Is stable during prolonged incubation at high temperatures.

• Primer extension characteristics:
GenTaq has the template-independent terminal transferase activity which results in the addition of a single nucleotide (adenosine) at 3' end of extension product. So TA cloning vector is recommended if the extension product is needed to be cloned.

Description

GenTaq DNA Polymerase is a thermostable DNA polymerase isolated and purified from *E.coli* strain that carries a plasmid with cloned Taq DNA polymerase. It lacks 3' to 5' proofreading activity but possesses a 5' to 3' exonuclease activity in the same polypeptide as the DNA polymerase.

Application

GenTaq is designed for use in DNA amplification, primer extension reaction and DNA sequencing.

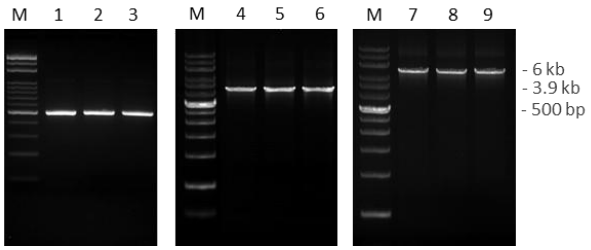


Figure 1. Amplification of different sized PCR products using GenTaq DNA Polymerase (5U/µl).
Lane M: Gen100 DNA Ladder or GenKB DNA Ladder
Lane1-3: Amplified 500 bp fragment with GenTaq
Lane4-6: Amplified 3.9 kb fragment with GenTaq
Lane7-9: Amplified 6.0 kb fragment with GenTaq

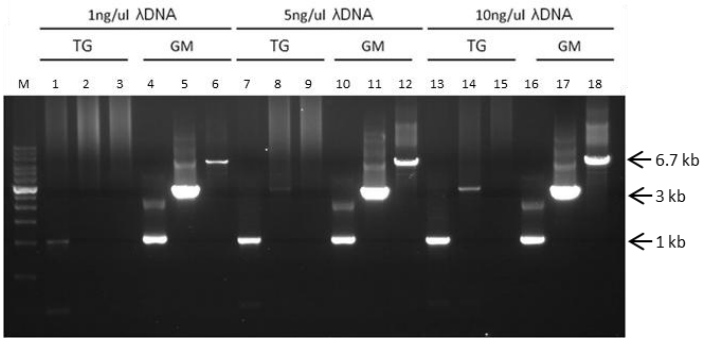


Figure 2. Amplification of different sized PCR products at different sample concentration using GeneMark GenTaq DNA Polymerase and related product from supplier TG.
GeneMark GenTaq DNA Polymerase has high sensitivity.

Lane M: DNA ladder
Lane1, 4, 7, 10, 13, 16: Amplified 1 kb fragment with Taq
Lane2, 5, 8, 11, 14, 17: Amplified 3 kb fragment with Taq
Lane3, 6, 9, 12, 15, 18: Amplified 6.7 kb fragment with Taq
TG: Supplier TG
GM: **GeneMark GenTaq DNA Polymerase**

Ordering Info

DESCRIPTION	Cat.No.	Size
GenTaq DNA Polymerase	GM008-2-250 (2U/µl)	250 U
GenTaq DNA Polymerase	GM008-2-500 (2U/µl)	500 U
GenTaq DNA Polymerase	GM008-2-1000 (2U/µl)	1000 U
GenTaq DNA Polymerase	GM008-5-250 (5U/µl)	250 U
GenTaq DNA Polymerase	GM008-5-500 (5U/µl)	500 U
GenTaq DNA Polymerase	GM008-5-1000 (5U/µl)	1000 U

PCR Related Products

GenTaq Plus DNA Polymerase

Description

GenTaq Plus is an enzyme mixture of GenTaq and pfu DNA polymerases, and it provides more efficient amplification and higher fidelity than conventional Taq DNA polymerase under conventional PCR conditions. In optimized PCR, GenTaq Plus DNA Polymerase can result in a six-fold increase in fidelity over Taq DNA polymerase alone and is effective over a wide range of target sizes up to 14 kb with some optimization. GenTaq Plus includes two buffers, one GenTaqPlus Buffer for PCR product smaller than 6 kb with high fidelity, and one PC2 Buffer for PCR product larger than 6 kb.

Features

• Thermostable:
Is stable during prolonged incubation at high temperatures.

• Efficiency and fidelity:
Provide more efficient amplification and higher fidelity (six-fold increase in fidelity over Taq DNA polymerase alone).

• Effectiveness:
Effective over a wide range of target sizes up to 14 kb.

• Characteristics:
Mixture of GenTaq and pfu DNA polymerases.

Application

GenTaq Plus can be used for DNA amplification, primer extension reaction and DNA sequencing. Secondary structure may be decreased in polymerization at high temperature.

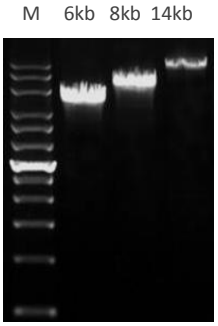
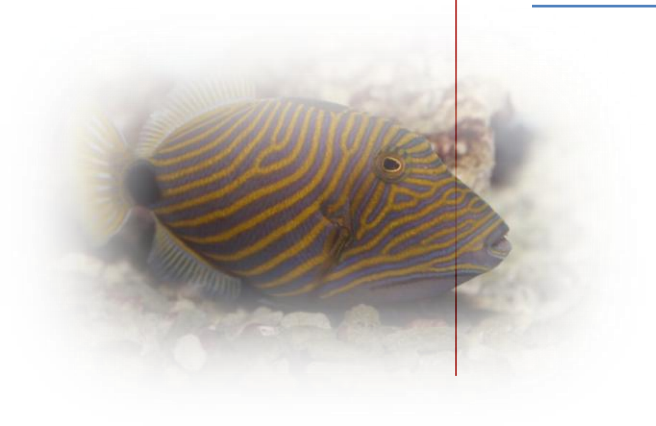


Figure 1. Products were amplified using GenTaq Plus DNA Polymerase.
GenTaq Plus DNA Polymerase can amplify products up to 14 kb in length.

Ordering Info

DESCRIPTION	Cat.No.	SIZE
GenTaq Plus DNA Polymerase	GM008P-250 (5U/μl)	250 U
GenTaq Plus DNA Polymerase	GM008P-1000 (5U/μl)	1000 U



GenHot Taq DNA Polymerase

Features

• Characteristics:
Heat-mediated activation.

• Specificity:
It can eliminate amplification artifacts such as primer-dimer formation and mis-priming during pre-amplification stage and thus may provide improved specificity when compared to standard DNA polymerases.

Description

GenHot Taq DNA Polymerase is a complex mixture of a thermostable 94 kD Taq DNA Polymerase purified from *E.coli* recombinant strain expressing *Thermus aquatiqus* polymerase gene and specific monoclonal antibodies. GenHot Taq DNA Polymerase is inactive under conditions of amplification reaction preparation. An advantage of GenHot Taq DNA Polymerase is the absence of additional heating step for polymerase activation. Heat activation of enzyme occurs during the first denaturation step. An inactive GenHot Taq DNA Polymerase-antibody complex dissociates automatically when temperature reaches 63℃, allowing activation of DNA polymerase.

Application

GenHot Taq DNA Polymerase can be used for DNA segment amplification, multiplex PCR, Real-time PCR, and in high sensitivity applications when high specificity is required.

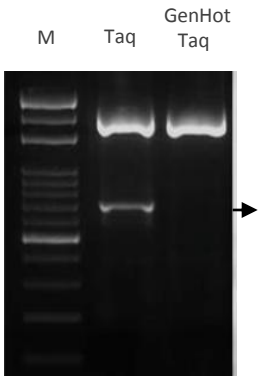


Figure 1. Gel electrophoresis analysis of PCR products generated using Taq and GenHot Taq polymerases.
GeneMark Hot start Taq DNA polymerase prevents amplification of non-specific products to provide increased efficiency.
M: Gen100 DNA Ladder

Ordering Info

DESCRIPTION	Cat.No.	SIZE
GenHot Taq DNA Polymerase	GM008HS-200 (5 U/μl)	200 U
GenHot Taq DNA Polymerase	GM008HS-1000 (5 U/μl)	1000 U

GeFast Taq DNA Polymerase

Features

• Characteristics:
Fast DNA amplification.

• Specificity:
amplification speed is 10~30 sec/kb.
The limit of amplifed DNA is ~15kb.
The products of PCR can be directly clone into TA vectors.

Description

GenFast Taq DNA polymerase is an gene modified enzyme by GenTaq DNA polymerase. It lacks 3‘ to 5‘ proofreading activity but possesses a 5‘ to 3' exonuclease activity in the same polypeptide as the DNA polymerase. It provides more fast speed than conventional Taq DNA polymerase under conventional PCR conditions. In optimized PCR, the GenFast Taq DNA Polymerase can amplified 1kb DNA in 10~30 sec. and the limit of DNA amplification is ~15kb, the PCR products have 3' A overhand and direct clone into TA vector.

Application

GenFast Taq is designed to fast amplified DNA, and use in specific detection and DNA sequencing.

Ordering Info

DESCRIPTION	Cat.No.	SIZE
GenFast Taq DNA Polymerase	GM008F-200 (5 U/μl)	200 U
GenFast Taq DNA Polymerase	GM008F-1000 (5 U/μl)	1000 U

PCR Related Products

gmPfu DNA Polymerase

Features

• Efficiency and fidelity:
gmPfu has higher efficiency and fidelity than general Pfu. It provides low error rate of 2.8 x 10^{-7}.

• Primer extension characteristics:
As gmPfu DNA Polymerase possesses both 5' to 3'-DNA polymerase and 3'to 5'-exonuclease activity, it results in blunt ends of DNA synthesis.

Description

gmPfu DNA Polymerase was cloned from *Pyrococcus furiosus* and genetically modified for high processivity. High-fidelity DNA polymerization is obtained with gmPfu DNA Polymerase, allowing amplification of DNA up to 10 kb long. gmPfu DNA Polymerase is more effective than general Pfu DNA polymerase and has a high amplification rate. It provides lower error rate and produces blunt-end PCR products.

Application

gmPfu DNA Polymerase can be used for DNA amplification, primer extension reaction and DNA sequencing. Secondary structure may be decreased in polymerization at high temperature.

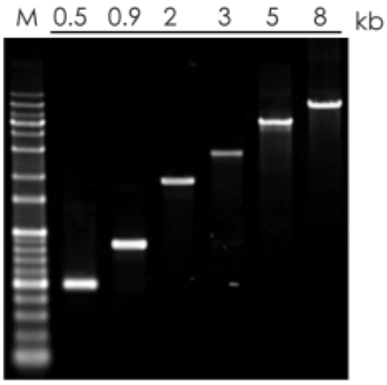


Figure 1. Gel electrophoresis analysis of PCR products generated using gmPfu DNA polymerase.
DNA fragments (0.5, 0.9, 2, 3, 5, 8 kb) can be efficiently amplified by GeneMark gmPfu DNA polymerase .
M: GeneMark 1 kb (+) DNA Ladder Marker

Ordering Info

DESCRIPTION	Cat.No.	Size
gmPfu DNA Polymerase	GPU425-250 (2.5 U/μl)	250 U
gmPfu DNA Polymerase	GPU425-500 (2.5 U/μl)	500 U

PCR Related Products

LongFast Pfu DNA Polymerase

Features

• Efficiency and fidelity:
LongFast Pfu has higher efficiency and fidelity than general Pfu. It provides low error rate of 4.4 x 10^{-7}.

• Fast:
The extending speed is upgraded to 15-30 sec/kb in PCR process.

• Primer extension characteristics:
As LongFast Pfu DNA Polymerase possesses both 5' to 3'-DNA polymerase and 3'to 5'-exonuclease activity, it results in blunt ends of DNA synthesis.

Description

LonFast Pfu DNA Polymerase was cloned from *Pyrococcus furiosus* and genetically modified for high processivity. LongFast Pfu DNA Polymerase is highly efficient in amplifying longer DNA than 10 kb in relatively short period of time. It has lower error rate than Taq and wild type Pfu DNA polymerases.

Application

LongFast Pfu DNA Polymerase can be used for DNA amplification, primer extension reaction and DNA sequencing. Secondary structure may be decreased in polymerization at high temperature.

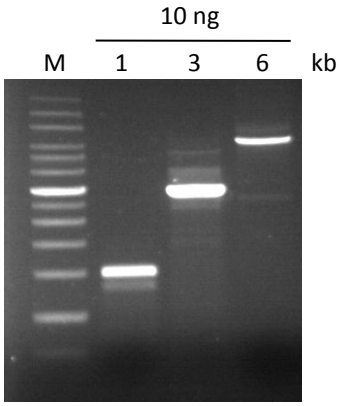


Figure 1. Amplification of different sized PCR products using LongFast Pfu DNA polymerase.
1, 3, 6 kb DNA fragments can be efficiently amplified by GeneMark LongFast Pfu DNA polymerase.
M: DNA ladder

Ordering Info

DESCRIPTION	Cat.No.	Size
LongFast Pfu DNA Polymerase	GPU4-200 (2 U/μl)	200 U
LongFast Pfu DNA Polymerase	GPU4-1000 (2 U/μl)	1000 U

GenBest DNA Polymerase

Description

GenBest Taq DNA Polymerase was cloned from *Pyrococcus furiosus* and genetically modified for high processivity. GenBest DNA Polymerase is highly fidelity and efficient in amplifying longer DNA than 20 kb (10~30 sec/kb) in relatively short period of time. It has lower error rate than Taq and wild type Pfu DNA polymerases. The fidelity of GenBest DNA polymerase have 64 times than general Taq DNA polymerase, and 8 times than Pfu DNA polymerase.

Features

• Efficiency and fidelity:
GenBest has higher efficiency and fidelity than general Pfu.

• Fast:
The extending speed is upgraded to 15-30 sec/kb in PCR process.

• Blunt end amplification
The product of PCR can be clone into TA vector with blunt end ligation

Application

The GenBest DNA Polymerase use in fast DNA amplification, gene cloinng, RT-PCR and fast DNA sequencing.

Ordering Info

DESCRIPTION	Cat.No.	Size
Best Taq DNA Polymerase	GM008B-200 (2 U/μl)	200 U
BestTaq DNA Polymerase	GM008B-1000 (2 U/μl)	1000 U

PCR Master Mix

Description

Product Name	PCR Master Mix II	GenFast PCR Master Mix	PCR GenTaq Plus Master Mix II	PCR Pfu Master Mix II	PCR Hot-Start Master Mix II
Polymerase	GenTaq	GenFast Taq	GenTaq + Pfu	gmPfu	Taq + Mab
Proofreading	No	No	Yes	Yes	No
Product Overhang	3'-A	3'-A	3'-A	Blunt	3'-A
PCR product size	Up to 6 kb	Up to 15 kb	Up to 14 kb	Up to 10 kb	Up to 6 kb
Application	Detection	Detection	Detection Cloning Expression	Cloning Expression Mutagenesis	Detection Multiplex PCR

Product Info

	Product Name		Cat #
PCR Master Mix	PCR Master Mix II	5X	RP02-II
	PCR GenTaq Plus Master Mix II	5X	RP02Plus-II
	PCR Pfu Master Mix II	5X	RP02Pfu-II
	PCR Hot-Start Master Mix II	5X	RP02HS-II
PCR Dye Master Mix	PCR Dye Master Mix II	2X 5X	RP02D-II-B RP02D-II-A
	2X GenFast PCR Dye Master Mix	2X	RP02D-Fast-01
	PCR Dye GenTaq Plus Master Mix	5X	RP02D-Plus
	PCR Dye Pfu Master Mix	5X	RP02D-Pfu
	PCR Dye Hot-Start Master Mix	5X	RP02D-HS

PCR Master Mix II (5X)

Description

The PCR Master Mix II is a ready-to-use mixture for all PCR applications. The mix contains all components required for PCR with the exception of templates and primers. This not only saves valuable time in the laboratory, but also reduces the number of pipetting and reagent handling errors.

Features

•Convenience :
Time saving and ready to use for PCR reaction.

•Components:
Supplied as a 5X concentrated ready-to-use mix. Each of the resulting 1X PCR reaction contains 0.75 U Taq DNA polymerase, reaction buffer, 2 mM $MgCl_2$, 250 μM dNTPs and enzyme stabilizer.

Application

DNA amplification, primer extension reaction and DNA sequencing.

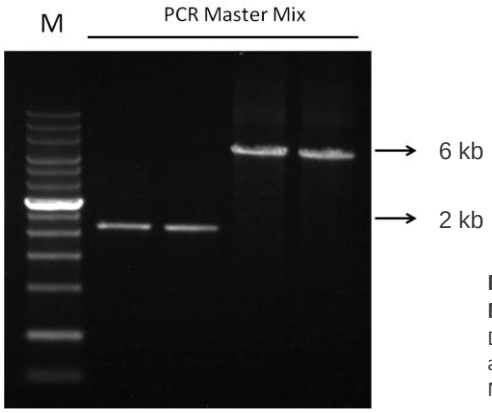


Figure 1. DNA amplification using GeneMark PCR Master Mix II.
DNA fragments with the length of 2 kb and 6 kb were amplified using 5X PCR Master Mix II.
M: GenKB DNA Ladder

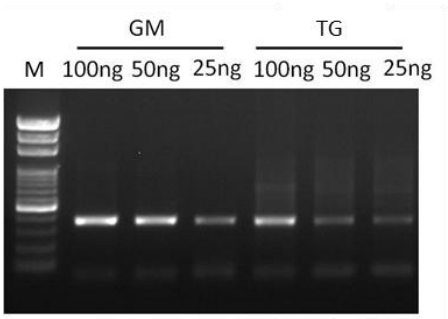


Figure 2. Amplification of zebrafish genomic DNA at different sample concentration using GeneMark PCR Master Mix ll and related product from supplier TG.
GeneMark PCR Master Mix ll provides high sensitivity.
TG: Supplier TG
GM: **GeneMark PCR Master Mix ll**

Ordering Info

DESCRIPTION	Cat.No.	REACTION
PCR Master Mix II (5X)	RP02-II-400	400
PCR Master Mix II (5X)	RP02-II-2000	2000

PCR Plus Master Mix II (5X)

Description

The PCR Plus Master Mix II is a ready-to-use mixture for amplification of specific DNA fragments. It can be used in place of the single reagent for virtually all PCR applications. The mix contains GenTaq Plus, which is an enzyme mixture of GenTaq and Pfu DNA polymerases. It has high fidelity with an error frequency $1.6/10^6$ during DNA synthesis and is effective over a wide range of target sizes up to 14 kb with some optimization. This not only saves valuable time in the laboratory, but also reduces the number of pipetting and reagent handling errors.

Features

•Convenience :
Time saving and ready to use for PCR reaction.

•Characteristics:
High sensitivity and reduce contamination.
Proof-reading, suitable for DNA cloning.

•Components:
Supplied as a 5X concentrated ready-to-use mix. Each of the resulting 1X PCR reaction contains 1.5 U of GenTaq Plus polymerase, reaction buffer, $MgCl_2$ (final concentration 2 mM), 250 µM dNTPs and enzyme stabilizer.

Application

DNA amplification, primer extension reaction and is suitable for DNA cloning.

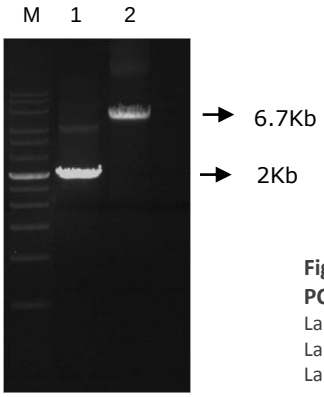


Figure 1. Amplification of Lambda DNA fragments by using PCR Plus Master Mix II.
Lane M: GenKB DNA Ladder
Lane 1: Amplification of 2 kb fragments
Lane 2: Amplification of 6.7 kb fragments

Ordering Info

DESCRIPTION	Cat.No.	REACTION
PCR Plus Master Mix II (5X)	RP02Plus-II	100

PCR Related Products

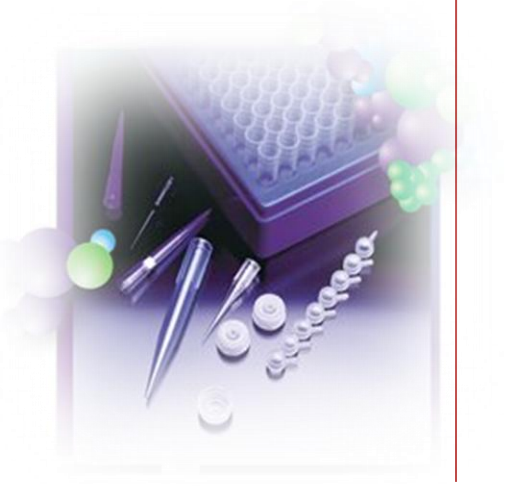
PCR Pfu Master Mix II (5X)

Features

•Convenience :
Time saving and ready to use for PCR reaction, reduce contamination.

•Characteristics:
Thermostable enzyme that possesses both 5' to 3' DNA polymerase and 3' to 5' exonuclease activity. High fidelity with an error frequency of 2.8 X 10^{-7}.

•Components:
Supplied as a 5X concentrated ready-to-use mix. Each of the resulting 1X PCR reaction contains 0.75 U of gmPfu DNA polymerase, reaction buffer, $MgSO_4$ (final concentration 2 mM), 250 µM dNTPs and enzyme stabilizer.



Description

The PCR Pfu Master Mix II is a ready-to-use mixture for amplification of specific DNA fragments. It can be used in place of the single reagent for virtually all PCR application. gmPfu DNA polymerase is isolated from the *Pyrococus furiosus* and genetically modified. The multifunctional thermostable enzyme possesses both of 5' to 3' DNA polymerase and 3' to 5' exonuclease activity which results in high fidelity with an error frequency of 2.8 X 10^{-7} during DNA synthesis. The mix contains gmPfu DNA polymerase and other components required for PCR with the exception of templates and primers. This not only saves valuable time in the laboratory, but also reduces the number of pipetting and reagent handling errors.

Application

DNA amplification, primer extension reaction and DNA sequencing.

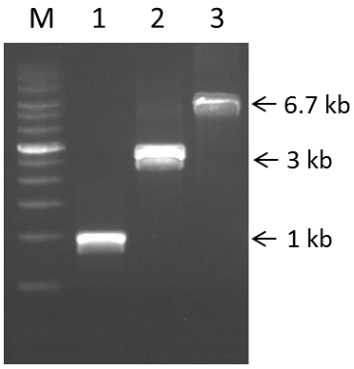


Figure 1. Amplification of Lambda DNA fragments by using PCR Pfu Master Mix II.
Lane M: GenKB DNA Ladder
Lane 1: Amplification of 1 kb fragments
Lane 2: Amplification of 3 kb fragments
Lane 3: Amplification of 6.7 kb fragments

Ordering Info

DESCRIPTION	Cat.No.	REACTION
PCR Pfu Master Mix II (5X)	RP02Pfu-II	200

PCR Hot-Start Master Mix II (5X)

Description

The PCR Hot-Start Master Mix II is a ready-to-use mixture for virtually all PCR applications. Hot-Start Taq DNA polymerase is a complex mixture of thermostable Taq DNA polymerase and specific monoclonal antibodies. It can eliminate amplification artifacts such as primer-dimer formation and mis-priming during pre-amplification stage and thus may provide improved specificity when compared to standard DNA polymerase. The mix contains Hot-Start Taq DNA polymerase and other components required for PCR with the exception of templates and primers. This not only saves valuable time in the laboratory, but also reduces the number of pipetting and reagent handling errors.

Features

•Convenience :
Time saving and ready to use for PCR reaction.

•Characteristics:
High sensitivity and reduce contamination.
Thermostable and prevent amplification of non-specific priming products.

•Components:
Supplied as a 5X concentrated ready-to-use mix. Each of the resulting 1X PCR reaction contains 0.75 U of Hot-Start Taq DNA polymerase, reaction buffer, $MgCl_2$ (final concentration 2 mM), 250 µM dNTPs and enzyme stabilizer.

Application

DNA amplification, primer extension reaction and DNA synthesis.

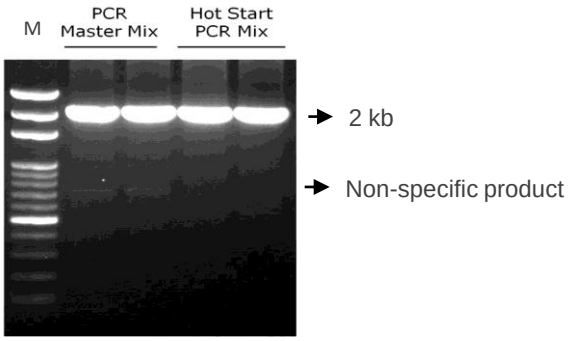


Figure1. Amplification of NinB gene of Enterobacteria phage lambda using PCR Hot-Start Master Mix II.
Comparison of PCR amplification using PCR Master Mix and Hot-Start PCR Master Mix. Hot-Start Taq polymerase is activated under specific temperature condition and thus eliminates undesired amplification.
M: Gen100 DNA Ladder

Ordering Info

DESCRIPTION	Cat.No.	REACTION
PCR Hot-Start Master Mix II (5X)	RP02HS-II	200

PCR Related Products

PCR Dye Master Mix II (2X/5X)

Features

•Convenience :
Time saving and ready to use for PCR reaction.

•Components:
The 2X or 5X PCR Dye Master Mix II is supplied as a 2X or 5X concentrated ready-to-use mix, relatively. Each of the resulting 1X PCR reaction contains 0.75 U of Taq DNA polymerase, reaction buffer, 2 mM $MgCl_2$, 250 µM dNTPs and enzyme stabilizer.

Description

The 2X or 5X PCR Dye Master Mix II is a ready-to-use mixture for virtually all PCR applications. The mixes contain all components for PCR with exception of templates and primers. A red dye contained in the mix allows the PCR product to be directly loaded onto the gel. This not only saves valuable time in the laboratory, but also reduces the number of pipetting and reagent handling errors.

Application

DNA amplification, primer extension reaction and DNA synthesis.

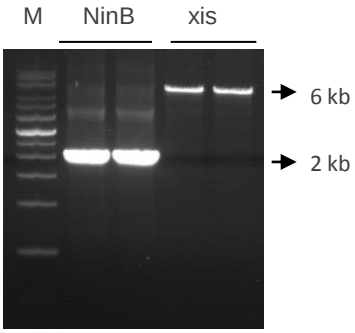


Figure 1. Amplification of Enterobactria phage lambda NinB gene and xis gene using GeneMark PCR Dye Master Mix II.
Gel analysis of amplified Enterobacteria phage lambda NinB gene (2 kb) and xis gene (6 kb). PCR product is directly loaded onto agarose gel.
M: GenKB DNA Ladder

Ordering Info

DESCRIPTION	Cat.No.	REACTION
5X PCR Dye Master Mix II	RP02D-II-A200	200
5X PCR Dye Master Mix II	RP02D-II-A1000	1000
2X PCR Dye Master Mix II	RP02D-II-B200	200
2X PCR Dye Master Mix II	RP02D-II-B1000	1000

PCR Related Products

2X GenFast PCR Dye Master Mix

Features

•Convenience :
Time saving and ready to use for PCR reaction.

•Components:
The 2X GenFast PCR Dye Master Mix II is supplied as a 2X concentrated ready-to-use mix, relatively. Each of the resulting 1X PCR reaction contains 0.75 U of GenFast Taq DNA polymerase, reaction buffer, 2 mM $MgCl_2$, 250 μM dNTPs and enzyme stabilizer.

Description

The 2X GenFast PCR Dye Master Mix II is a ready-to-use mixture for virtually all fast PCR applications. The mixes contain all components for PCR with exception of templates and primers. A green dye contained in the mix allows the PCR product to be directly loaded onto the gel. This not only saves valuable time in the laboratory, but also reduces the number of pipetting and reagent handling errors.

Application

DNA amplification, TA cloning, primer extension reaction and DNA sequencing.

Ordering Info

DESCRIPTION	Cat.No.	REACTION
2X GenFast PCR Dye Master Mix, 1ml	RP02D-Fast-01	100r
2X GenFast PCR Dye Master Mix, 1ml *5	RP02D-Fast-05	500r

PCR Related Products

PCR Dye Plus Master Mix (5X)

Features

•Convenience :
Time saving and ready to use for PCR reaction.

•Components:
Supplied as a 5X concentrated ready-to-use mix. Each of the resulting 1X PCR reaction contains 1.5 U of GenTaq Plus polymerase, reaction buffer, $MgCl_2$ (final concentration 2 mM), 250 µM dNTPs and enzyme stabilizer.

Description

The PCR Dye Plus Master Mix is a ready-to-use mixture for amplification of specific DNA fragments. It can be used in place of the single reagent for virtually all PCR applications. The mix contains GenTaq Plus, which is an enzyme mixture of GenTaq and Pfu DNA polymerases, it has high fidelity with an error frequency $1.6/10^6$ during DNA synthesis and is effective over a wide range of target sizes up to 14 kb with some optimization. A red dye is also contained in the mix allowing the PCR products to be directly loaded onto the gel.

Application

DNA amplification, primer extension reaction and DNA synthesis.

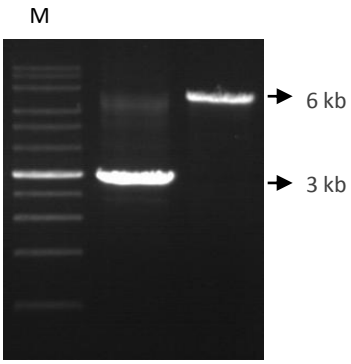


Figure 1. Amplification of Enterobactria phage lambda ea59 gene and xis gene using GeneMark PCR Dye Plus Master Mix.
Gel analysis of amplified Enterobacteria phage lambda ea59 gene (3 kb) and xis gene (6 kb). PCR product is directly loaded onto agarose gel.
M: GenKB DNA Ladder

Ordering Info

DESCRIPTION	Cat.No.	REACTION
PCR Dye Plus Master Mix (5X)	RP02D-Plus	100

PCR Dye Pfu Master Mix (5X)

Features

•Convenience :
Time saving and ready to use for PCR reaction.

•Characteristics:
Thermostable enzyme that possesses both of 5' to 3' DNA polymerase and 3' to 5' exonuclease activity.

•Components:
Supplied as a 5X concentrated ready-to-use mix. Each of the resulting 1X PCR reaction contains 0.75 U of gmPfu DNA polymerase, reaction buffer, $MgSO_4$ (final concentration 2 mM), 250 μM dNTPs and enzyme stabilizer.

Description

The PCR Dye Pfu Master Mix is a ready-to-use mixture for amplification of specific DNA fragments. It can be used in place of the single reagent for virtually all PCR applications. The mix contains gmPfu DNA polymerase and other components required for PCR with exception of templates and primers. A red dye contained in the mix allows PCR products to be directly loaded onto the gel. gmPfu DNA polymerase is isolated from the *Pyrococus furiosus* and genetically modified. The multifunctional thermostable enzyme possesses both of 5' to 3' DNA polymerase and 3' to 5' exonuclease activity which results in high fidelity with an error frequency of 2.8 X 10^{-7} during DNA synthesis. This not only saves valuable time in the laboratory, but also reduces the number of pipetting and reagent handling errors.

Application

DNA amplification, primer extension reaction and DNA synthesis.

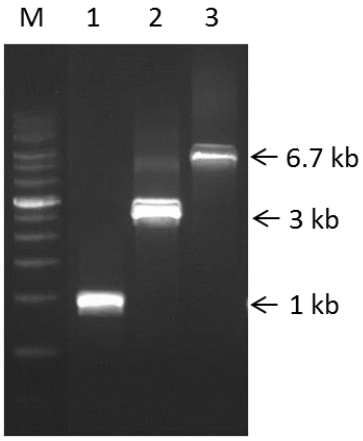


Figure 1. Amplification of Lambda DNA fragments by using GeneMark PCR Dye Pfu Master Mix.
Lane M: GenKB DNA Ladder
Lane 1: Amplification of 1 kb fragments
Lane 2: Amplification of 3 kb fragments
Lane 3: Amplification of 6.7 kb fragments

Ordering Info

DESCRIPTION	Cat.No.	REACTION
PCR Dye Pfu Master Mix (5X)	RP02D-Pfu	200

PCR Related Products

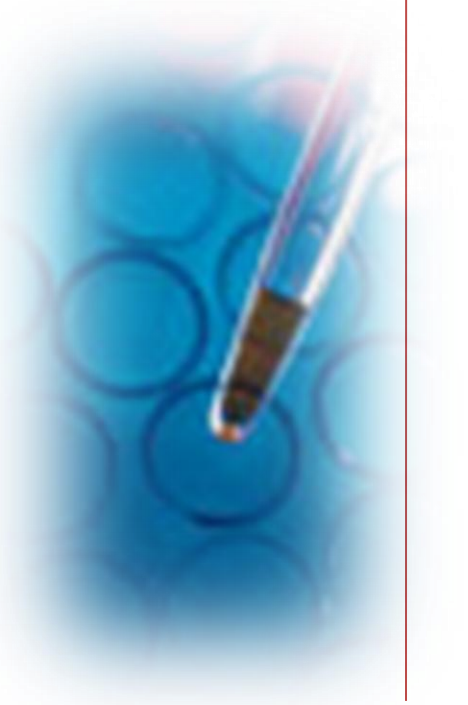
PCR Dye Hot-Start Master Mix (5X)

Features

•Convenience :
Time saving and ready to use for PCR reaction.

•Characteristics:
High sensitivity and reduce contamination.
Thermostable and prevent amplification of non-specific priming products.

•Components:
Supplied as a 5X concentrated ready-to-use mix. Each of the resulting 1X PCR reaction contains 0.75 U of Hot Start Taq DNA polymerase, reaction buffer, 2 mM $MgCl_2$, 250 µM dNTPs and enzyme stabilizer.



Description

The PCR Dye Hot-Start Master Mix is a ready-to-use mixture for virtually all PCR applications. Hot-Start Taq DNA polymerase is a complex mixture of thermostable Taq DNA polymerase and specific monoclonal antibodies. It can eliminate amplification artifacts such as primer-dimer formation and mis-priming during pre-amplification stage and thus may provide improved specificity when compared to the standard DNA polymerase. The mix contains Hot-Start Taq DNA polymerase and other components required for PCR with exception of templates and primers. A red dye contained in the mix allows PCR products to be directly loaded onto the gel. This not only saves valuable time in the laboratory, but also reduces the number of pipetting and reagent handling errors.

Application

DNA amplification, primer extension reaction and DNA synthesis.

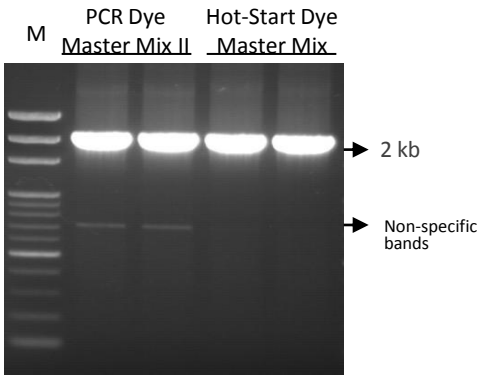


Figure 1. Comparison of DNA amplification of Enterobactria phage lambda NinB gene using PCR Dye Master Mix II and PCR Dye Hot-Start Master Mix.
Gel electrophoresis analysis of amplified Enterobacteria phage lambda NinB gene. Non-specific bands are not observed for PCR products amplified using PCR Dye Hot-Start Master Mix.
M: Gen100 DNA Ladder

Ordering Info

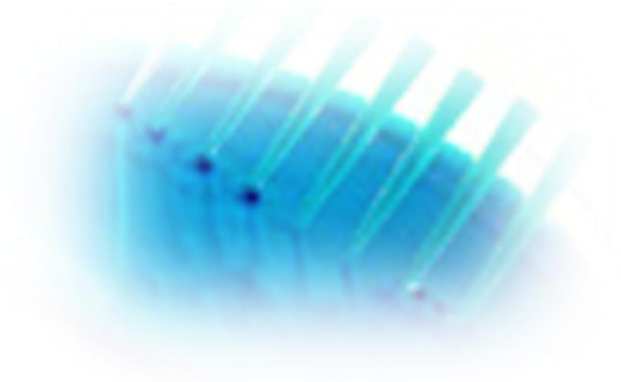
DESCRIPTION	Cat.No.	REACTION
PCR Dye Hot Start Master Mix (5X)	RP02D-HS	200

Direct PCR Kits

- *Fast and easy to use*
- *High specificity*
- *High sensitivity*
- *Easily adapted to high throughput system*

Product Info

Product	Cat. No.	Sample	DNA recovery	Format
SAMtissue Direct PCR Kit	RP02-LD300	Cells, mouse tails, liver, muscle, hair shafts, skin, saliva and other animal tissues	For PCR	No DNA purification needed. Use pre-optimized 2 x PCR mix (containing dye).
SAMbacteria Direct PCR Kit	RP02-LD301	Gram-negative and Gram-positive bacteria	For PCR	
GMplant Direct PCR Kit	RP02-PD801	Plant leaf	For PCR	
SAMseed Direct PCR Kit	RP02-LD303	Arabidopsis, carrot, corn, cucumber, pepper, soybean, turnip, wheat and different kinds of seeds	For PCR	
SAMblood Direct PCR Kit	RP02-LD304	Blood, saliva, other body fluids, swab sample and cultured cells	For PCR	



PCR Related Products

SAMtissue Direct PCR Kit

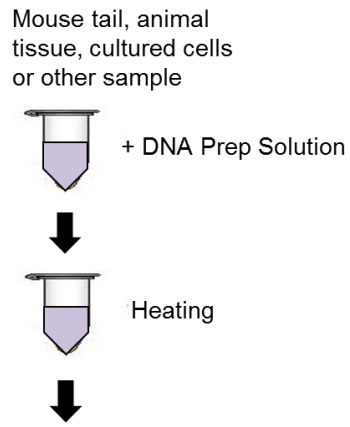
Features

• Sample type:
Cells, mouse tails, liver, muscle, hair shafts, skin, saliva and other animal tissues.

• Easy and fast:
No complicated DNA purification is needed. DNA is ready in 15 min.

• Specificity:
Little or no background for PCR results.

• Sensitivity:
Work with low amount of DNA.



Description

The SAMtissue Direct PCR Kit contains all the reagents needed for quick extraction and direct amplification of genomic DNA from various tissues and cells. The kit is optimized for working with animal genomic DNA, and the PCR product can be directly loaded onto agarose gels for electrophoresis without adding loading dye.

Application

Genotyping, mutation detection, target detection in transgenic mice, qPCR, DNA sequencing and cloning.

Figure 1. Genotyping results of six mouse lines using SAMtissue Direct PCR Kit.
Sample 1-6: Fabpi gene, 506 bp
Sample a-f: TCRD gene, 202 bp
Sample A-F: beta-globin gene, 494 bp
M: 100 bp DNA Ladder

Ordering Info

DESCRIPTION	Cat.No.	REACTION
SAMtissue Direct PCR Kit	RP02-LD300-1	100
SAMtissue Direct PCR Kit	RP02-LD300-5	500

SAMbacteria Direct PCR Kit

Description

The SAMbacteria Direct PCR Kit is by far the easiest but most powerful PCR kit available for bacteria genomic DNA and plasmid DNA. Genomic and plasmid DNA are directly released from bacteria cells during the PCR process owing to the proprietary reagent in the PCR mix. The PCR product can be directly loaded onto agarose gels without loading dye.

Application

Colony screening, genotyping, environmental bacteriology study, qPCR, DNA sequencing and cloning.

Features

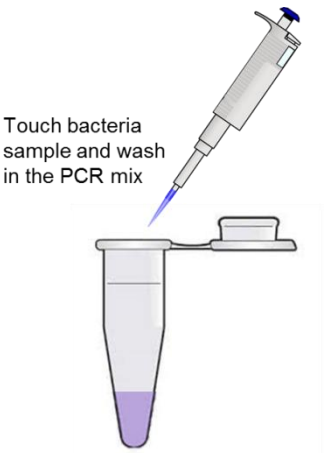
• Sample type:
Gram-negative and Gram-positive bacteria.

• Easy and fast:
No DNA purification is needed.

• Versatile:
Work with chromosomal and plasmid DNA.

• Specificity:
Little or no background for PCR results.

• Sensitivity:
Work with low amount of DNA.



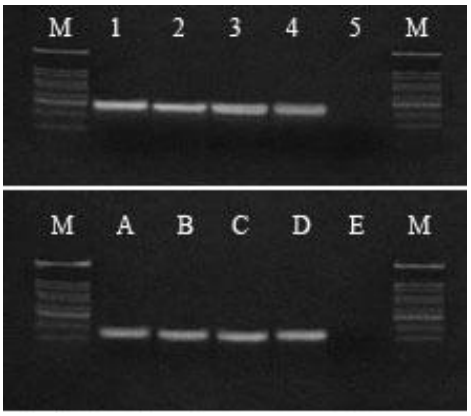
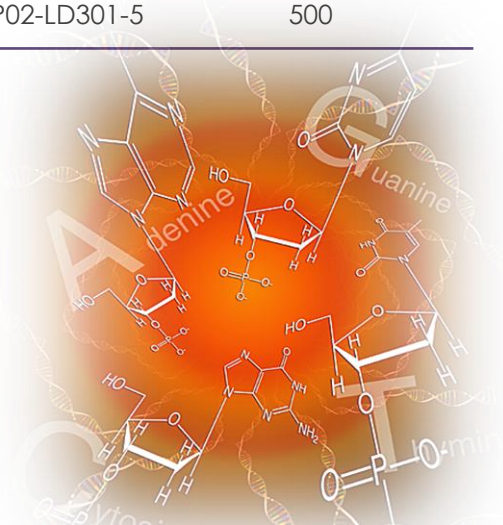


Figure 1. PCR results of different bacteria strains using SAMbacteria Direct PCR Kit.
Sample 1-4: Four E.coli strains, Gram-negative
Sample A-D: Four Gram-positive strains
Sample 5 and E: Blank
M: 100 bp DNA Ladder

Ordering Info

DESCRIPTION	Cat.No.	REACTION
SAMbacteria Direct PCR Kit	RP02-LD301-1	100
SAMbacteria Direct PCR Kit	RP02-LD301-5	500



GMplant Direct PCR Kit

Features

• Sample type:
Plant leaves.

• Easy and fast:
No complicated DNA purification is needed.

• Sensitivity:
Work with low amount of DNA.

Description

The GMplant Direct PCR Kit is designed for direct PCR from plant leaves and eliminates the complicated DNA extraction step. The 2X GMplant PCR Mix includes hot-start DNA polymerase, reaction buffer and loading dye. In addition, this product is highly resistant to the PCR inhibitors from plants. The GMplant Direct PCR Kit includes internal control primers to amplify the conserved region in chloroplast DNA.

Application

Genotyping, mutation detection, confirming transgenic plant, qPCR, DNA sequencing and cloning.

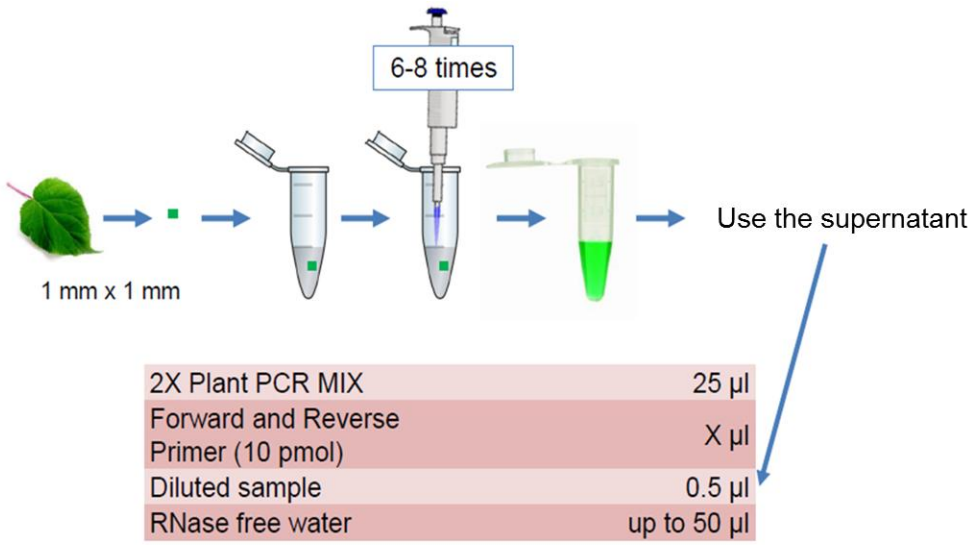


Figure 1. Summary of GMplant Direct PCR Kit.

Ordering Info

DESCRIPTION	Cat.No.	REACTION
GMplant Direct PCR Kit	RP02-PD8100	100
GMplant Direct PCR Kit	RP02-PD8500	500

SAMseed Direct PCR Kit

Description

The SAMseed Direct PCR Kit is optimized for working with plant genomic DNA and contains all the reagents needed for quick extraction and direct amplification of genomic DNA from different kinds of seeds. The PCR product can be directly loaded onto agarose gels without adding loading dye.

Application

Genotyping, confirming transgenic plant, discovery of plant gene, qPCR and DNA sequencing.

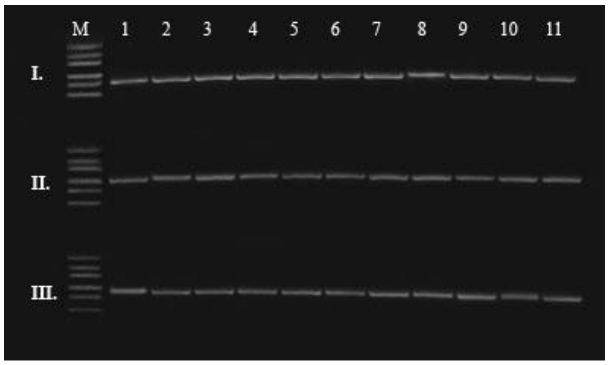


Figure 1. PCR products of different seed genomic DNA prepared using SAMseed Direct PCR Kit.
Panel Ⅰ with primers of 18s rRNA gene.
Panel Ⅱ with primers of cox1 gene.
Panel Ⅲ with primers of rbc1 gene.

The seed samples are :
1. Arabidopsis; 2. Bean; 3. Cauliflower; 4. Corn; 5. Egg plant; 6. Mung bean; 7. Lettuce; 8. Pepper; 9. Spynean; 10. Squash; 11. Turnip.
M: DNA ladder

Ordering Info

DESCRIPTION	Cat.No.	REACTION
SAMseed Direct PCR Kit	RP02-LD303-1	100
SAMseed Direct PCR Kit	RP02-LD303-5	500

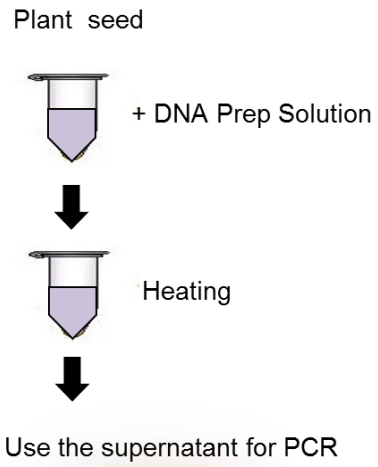
Features

• Sample type:
Arabidopsis, carrot, corn, cucumber, pepper, soybean, turnip, wheat and more.

• Easy and fast:
No complicated DNA purification is needed. DNA is ready in 15 min.

• Specificity:
Little or no background for PCR results.

• Sensitivity:
Only tiny sample is needed.



SAMblood Direct PCR Kit

Description

The SAMblood Direct PCR Kit contains all the reagents needed for quick extraction and direct amplification of genomic DNA from blood and other body fluids. The PCR product can be directly loaded onto agarose gels without adding loading dye.

Application

Genotyping, mutation detection, qPCR, DNA sequencing and cloning.

Features

• Sample type:
Blood, saliva, body fluids, buccal swab and cultured cells.

• Easy and fast:
No complicated DNA purification is needed. DNA is ready in 15 min.

• Specificity:
Little or no background for PCR results.

• Sensitivity:
Work with small amount of DNA.

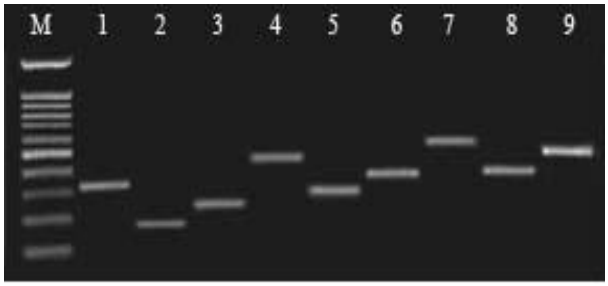
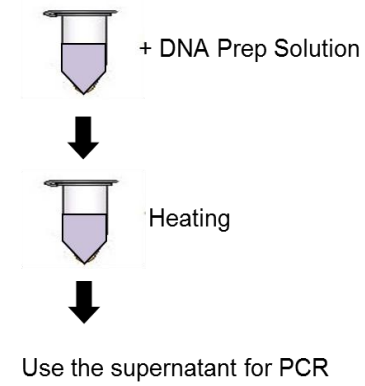
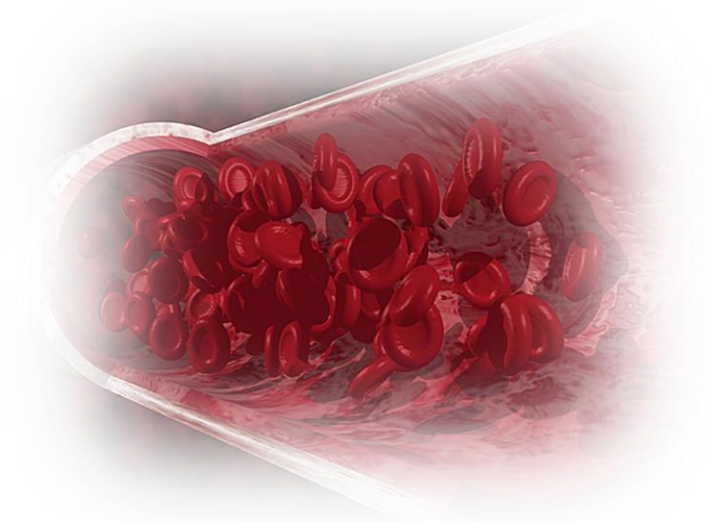


Figure 1. PCR results of blood samples using SAMblood Direct PCR Kit.
Sample 1 to 9 are DNA bands amplified with primers for human β-globin region and human growth hormone genes.
M: 100 bp DNA Ladder



Ordering Info

DESCRIPTION	Cat.No.	REACTION
SAMblood Direct PCR Kit	RP02-LD304-1	100
SAMblood Direct PCR Kit	RP02-LD304-5	500

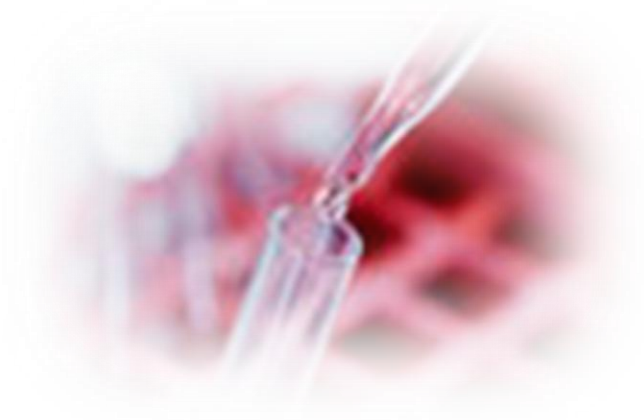


Real-Time PCR Master Mix

SYBR Green system

Product Info

Product	Cat.No.	ROX	UDG	Enzyme
GM SYBR qPCR Kit	QPSY01	High ROX	-	Hot-start Taq
GM SYBR qPCR Kit (w/o ROX)	QPSY02	Without ROX	-	Hot-start Taq
GM SYBR qPCR Kit (Low ROX)	QPSY03	Low ROX	-	Hot-start Taq
BrightGreen 2X qPCR Master Mix (High ROX)	QPBG01-HR01	High ROX	-	Hot-start Taq
BrightGreen 2X qPCR Master Mix (w/o ROX)	QPBG01-NR01	Without ROX	-	Hot-start Taq
BrightGreen 2X qPCR Master Mix (Low ROX)	QPBG01-LR01	Low ROX	-	Hot-start Taq



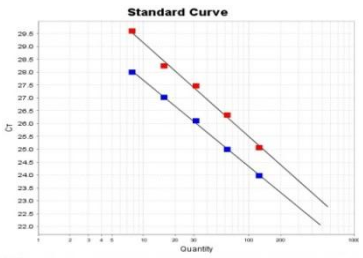
PCR Related Products

GM SYBR qPCR Kit

Features

• Characteristics:
Quick and accurate detection and quantification of target gene.

High amplification efficiency and highly sensitive detection.



	GM	Supplier K
slope	-3.354	-3.639
R^2	0.999	0.993
PCR Eff.	98.667%	88.272%

Description

The GM SYBR qPCR Kit is supplied as a ready-to-use mix containing all components required for amplification and detection of DNA in qPCR with exception of primers and templates. The GM SYBR qPCR Kit is supplied as a 2X Master Mix with integrated antibody-mediated hot-start Taq, SYBR Green I fluorescent dye, $MgCl_2$, dNTPs, ROX reference dye and stabilizers. The GM SYBR qPCR Kit not only saves valuable time in the laboratory, but also reduces the number of pipetting and reagent handling errors.

Application

Real-time PCR/qPCR, gene expression analysis and genotyping.

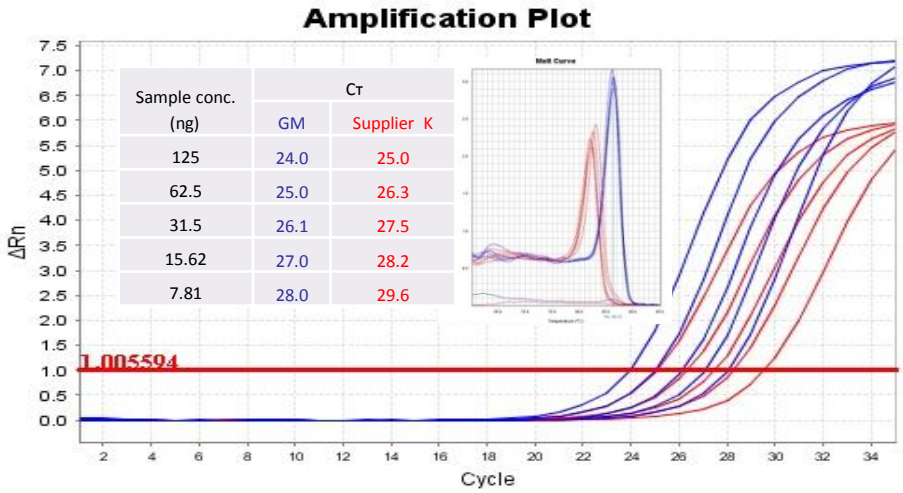


Figure 1. Performance comparison of GM SYBR qPCR Kit and supplier K's master mix.
A 120 bp fragment of the Zebrafish beta-actin gene was amplified from a set of five 2-fold dilutions of Zebrafish genomic DNA (125 ng to 7.8 ng) using GM SYBR qPCR Master Mix (blue) and qPCR kit from supplier K (red). Reactions were performed according to the protocol: 1 cycle at 95℃ for 5 min, followed by 35 cycles at 95℃ for 15 sec, 60℃ for 50 sec on an ABI-StepOne.

Ordering Info

DESCRIPTION	Cat.No.	SIZE
GM SYBR qPCR Kit	QPSY01	1 ml x 1
GM SYBR qPCR Kit	QPSY01-5	1 ml x 5
GM SYBR qPCR Kit	QPSY01-25	1 ml x 25
GM SYBR qPCR Kit (w/o ROX)	QPSY02-1	1 ml x 1
GM SYBR qPCR Kit (w/o ROX)	QPSY02-5	1 ml x 5
GM SYBR qPCR Kit (w/o ROX)	QPSY02-25	1 ml x 25
GM SYBR qPCR Kit (Low ROX)	QPSY03-1	1 ml x 1
GM SYBR qPCR Kit (Low ROX)	QPSY03-5	1 ml x 5
GM SYBR qPCR Kit (Low ROX)	QPSY03-25	1 ml x 25

BrightGreen 2X qPCR Master Mix (High ROX)

Features

• Easy to use:
Contain everything needed for qPCR except for primers and templates.

• High specificity:
The use of hot-start PCR polymerase enhances specificity.

Description

The BrightGreen 2X qPCR master mix is a preassembled liquid mixture that contains chemically modified hot-start DNA polymerase, optimal reaction buffer, dNTPs, stabilizing agents, ROX reference dye and BrightGreen dye. The BrightGreen 2X qPCR master mix is formulated to have enhanced specificity, thereby minimizing nonspecific noise signal due to formation of primer dimers or non-specific products.

Application

Real-time PCR/qPCR, gene expression analysis and genotyping.

Ordering Info

DESCRIPTION	Cat.No.	SIZE
BrightGreen 2X qPCR Master Mix (low ROX)	QPBG01-LR01-1	1 ml x 1
BrightGreen 2X qPCR Master Mix (High ROX)	QPBG01-HR01-1	1 ml x 1
BrightGreen 2X qPCR Master Mix (W/o ROX)	QPBG01-NR01-1	1 ml x 1

RT and RT-PCR/qPCR Kits

Product Info

RT Kits

Product	Cat. No.	Reverse Transcriptase
First Stranded cDNA Synthesis Kit (AMV)	GRS02A	AMV RTase
SuperSAMscript III First Stranded cDNA Synthesis Kit	GRS03M	SuperSAMscript III RTase (M-MLV)
SuperSAMscript IV First Stranded cDNA Synthesis Kit	GRS04M	SuperSAMscript IV Rtase (M-MLV)

Product Info

miRNA related

Product	Cat. No.
SAMreal miRNA First Strand cDNA Synthesis Kit	GRS03-mi

Product Info

One-Step RT-PCR Kits

Product	Cat. No.	Enzyme
One-Step RT-PCR Kit III	RP01-III, RP01-III-250	SuperSAMscript III/ GenHot Taq
One-Step RT-PCR Plus Kit (SuperSAMscript III/ GenTaq Plus)	RP01-III-Plus	SuperSAMscript III/ GenTaq Plus
One-Step RT-PCR Kit IV	RP01-IV, RP01-IV-250	SuperSAMscript IV GenHot Taq
One-Step RT-PCR Plus Kit (SuperSAMscript IV/ GenTaq Plus)	RP01-IV-Plus	SuperSAMscript IV/ GenTaq Plus
One-Step RT-PCR Plus Kit (AMV / GenTaq Plus)	RP01-Plus/A	AMV / GenTaq Plus
One-Step RT-PCR II with Dye	RP01D-II	SuperSAMscript / Hot-start Taq

RT and RT-PCR/qPCR Kits

Product Info

Two-Step RT-PCR Kits

Product	Cat. No.	Enzyme
Two-Step AMV RT-PCR Kit	RP012-A	AMV / GenHot Taq
Two-Step SuperSAMscript III RT-PCR Kit	RP012-M3	SuperSAMscript III/ GenHot Taq
Two-Step SuperSAMscript IV RT-PCR Kit	RP012-M4	SuperSAMscript IV/ GenHot Taq

BrightGreen system

Product Info

One-Step RT-qPCR Kits

Product	Cat. No.	Enzyme
One-Step BrightGreen RT-qPCR Kit (with low ROX)	QRP01BG-LR01	SAMscript / Hot-start Taq
One-Step BrightGreen RT-qPCR Kit (with high ROX)	QRP01BG-HR01	SAMscript / Hot-start Taq
One-Step BrightGreen RT-qPCR Kit (without ROX)	QRP01BG-NR01	SAMscript / Hot-start Taq

PCR Related Products

First Stranded cDNA Synthesis Kit (AMV)

Cat.No.	REACTION
GRS02A	10

Description

The First Stranded cDNA Synthesis Kit (AMV) provides all components required to perform first-strand cDNA synthesis. AMV RTase catalyzes the polymerization of DNA using DNA, RNA or DNA:RNA hybrids as templates. In the cDNA synthesis step, RNA is reverse transcribed by AMV RTase to produce its cDNA up to 1.2 kb. The RNase inhibitor supplied with the kit can protect RNA from degradation.

Application

Reverse transcription of total RNA or mRNA.

SuperSAMscript III First Stranded cDNA Synthesis Kit

Cat.No.	REACTION
GRS03M	20

Description

The SuperSAMscript III First Stranded cDNA Synthesis Kit provides all components required to perform first-strand cDNA synthesis. SuperSAMscript III reverse transcriptase is genetically engineered version of M-MLV RTase which is a frequent choice for cDNA synthesis because of its ease of use and reduce RNase H activity. In the cDNA synthesis step, RNA is reverse transcribed by SuperSAMscript III RTase to produce its cDNA up to 15 kb in synthesis reaction from 37℃ to 55℃. The RNase inhibitor supplied with the kit can protect RNA from degradation.

Application

Reverse transcription of total RNA or mRNA.

SuperSAMscript IV First Stranded cDNA Synthesis Kit

Cat.No.	REACTION
GRS04M	20

Description

The SuperSAMscript IV First Stranded cDNA Synthesis Kit provides all components required to perform first-strand cDNA synthesis. SuperSAMscript IV reverse transcriptase is genetically engineered version of M-MLV RTase which has a weak RNase H activity and is useful for full-length cDNA amplification. In the cDNA synthesis step, RNA is reverse transcribed by SuperSAMscript RTase to produce its cDNA up to 12 kb from messenger RNA in reaction from 37℃ to 55℃. The RNase inhibitor supplied with the kit can protect RNA from degradation.

Application

Reverse transcription of total RNA or mRNA.

PCR Related Products

SAMreal miRNA First-Strand cDNA Synthesis Kit

Features

• Saving time and labor:
Combine Poly(A) modification of miRNA and reverse transcription. Reduce operation steps and save half of reaction time simultaneously.

•High sensitivity:
Perform reverse transcription of all miRNA with A-tailing and greatly increase the detection rate of low-abundant miRNA.

• High specificity:
E.coli Poly(A) Polymerase and RTase in the kit are only for the modification and reverse transcription of single-strand miRNA.

• Compatibility:
Used for reverse transcription of miRNA extracted from almost all the materials.

Description

The SAMreal miRNA First-Stand cDNA Synthesis Kit adopts the Poly(A) modification and synthesizes the first-strand cDNA of miRNA. The procedure is based on adding Poly(A) to the 3'-terminal of miRNA by *E.coli* Poly(A) Polymerase and using Oligo(dT)-Universal Tag for reverse transcription, and then synthesizing the first strand cDNA corresponding to miRNA. The kit can simplify the experimental process and reduce the possibility of operational error.

Application

Reverse transcription of miRNA.

Note: The kit has to be used with SAMreal miRNA qPCR Detection Kit (SYBR Green). (Cat. No.: QPSY01-mi)

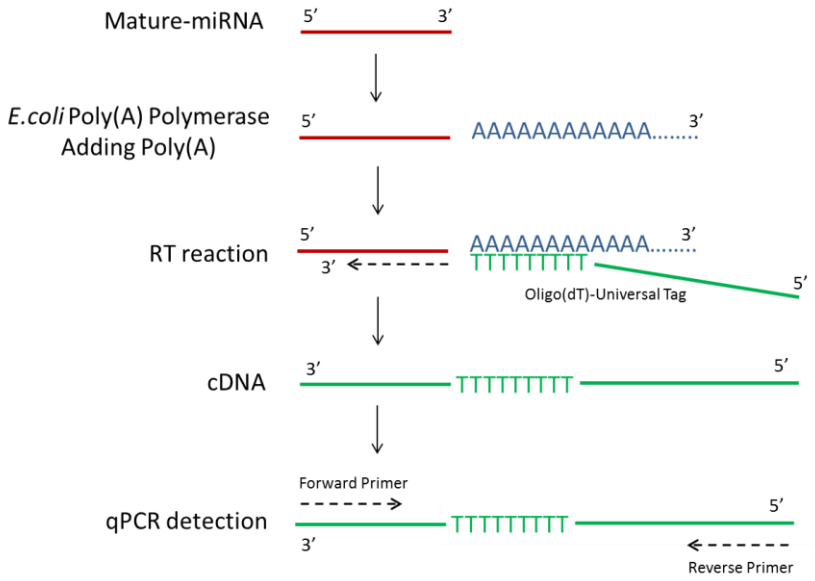


Figure 1. The principle of miRNA cDNA synthesis.

Ordering Info

DESCRIPTION	Cat.No.	REACTION
SAMreal miRNA First-Strand cDNA Synthesis Kit	GRS03-mi	25

PCR Related Products

One-Step RT-PCR Kit III (SuperSAMscript III RTase/GenHot)

Features

•Convenience :
One-tube, two-enzyme system, easy one-tube reaction.

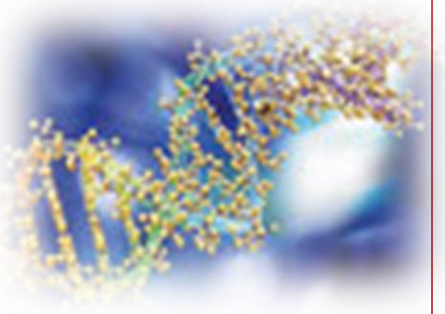
•Characteristics:
Unique blend of SuperSAMscript III RTase and Hot-start Taq DNA polymerase with high sensitivity.

Useful for full-length cDNA amplification.

One-step RT-PCR for any RNA templates.

•High efficiency:
Optimized buffer for efficient reverse transcription with higher temperature and amplification.

•High specificity:
Use Hot-start Taq DNA polymerase and eliminate primer-dimer formation and mis-priming.



Description

The One-Step RT-PCR Kit III provides one-tube, two-enzyme system for the reverse transcription and PCR amplification of a specific target RNA from either total RNA or mRNA. The system uses SuperSAMscript III reverse transcriptase for first-strand cDNA synthesis and GenHot DNA polymerase for PCR amplification. SuperSAMscript III RTase is a genetically engineered version of M-MLV RTase which lacks 3' to 5' exonucleolytic proofreading function and has a no RNase H activity as compared to AMV RTase, that is thermo stable (amplified DNA in 37~55 ℃) and is useful for full-length cDNA amplification(~15kb). GenHot Taq DNA polymerase in the kit is modified with specific monoclonal antibody and can eliminate amplification artifacts such as primer-dimer formation and mis-priming during pre-amplification stage.

Application

Reverse transcription of total RNA or mRNA, followed by cDNA PCR amplification.

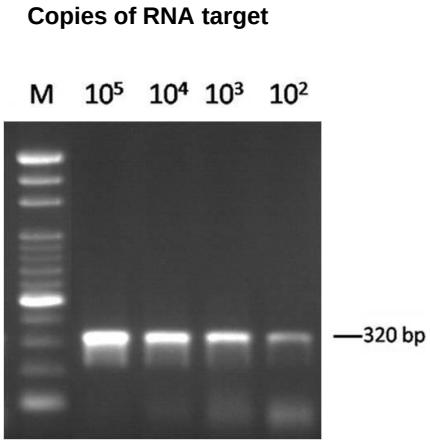


Figure 1. Sensitivity of One Step RT-PCR Kit III.
Amplification of specific RNA from serial dilution of RNA templates with One-Step RT PCR Kit III. RNA templates were prepared by *in vitro* transcription, and copies numbers were determined and calculated by spectrophotometer and gel phosphor screen imaging.
M: GM100 DNA Ladder
Template: *E.coli* total RNA

Ordering Info

DESCRIPTION	Cat.No.	REACTION
One-Step RT-PCR Kit III	RP01-III	50
One-Step RT-PCR Kit III	RP01-III-250	250

One-Step RT-PCR Kit IV (SuperSAMscript Rtase IV/GenHot)

Features

•Convenience :
One-tube, two-enzyme system, easy one-tube reaction.

•Characteristics:
Unique blend of SuperSAMscript RTase IV and Hot-start Taq DNA polymerase with high sensitivity.

Useful for full-length cDNA amplification.

One-step RT-PCR for any RNA templates.

Thermo Stable:
Amplification of cDNA can be work in 42~65℃

•High efficiency:
Optimized buffer for efficient reverse transcription with higher temperature and amplification.

•High specificity:
Use Hot-start Taq DNA polymerase and eliminate primer-dimer formation and mis-priming.

Description

The One-Step RT-PCR Kit III provides one-tube, two-enzyme system for the reverse transcription and PCR amplification of a specific target RNA from either total RNA or mRNA. The system uses SuperSAMscript reverse transcriptase for first-strand cDNA synthesis and GenHot DNA polymerase for PCR amplification. SuperSAMscript IV RTase is a genetically engineered version of M-MLV RTase which lacks 3' to 5' exonucleolytic proofreading function and has a no RNase H activity as compared to AMV RTase, That is thermo stable (amplified in 42~65 ℃) and is useful for full-length cDNA amplification (Amplified DNA ~12 kb). GenHot Taq DNA polymerase in the kit is modified with specific monoclonal antibody and can eliminate amplification artifacts such as primer-dimer formation and mis-priming during pre-amplification stage.

Application

Reverse transcription of total RNA or mRNA, followed by cDNA PCR amplification.

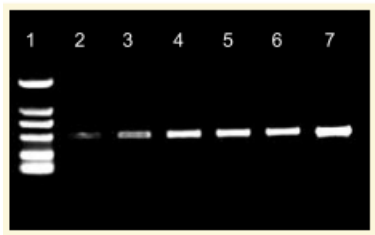


Figure 1. Sensitivity of One Step RT-PCR Kit IV.
Amplification of specific RNA from serial dilution of RNA templates with One-Step RT PCR Kit IV. RNA templates were prepared by *in vitro* transcription, and copies numbers were determined and calculated by spectrophotometer and gel phosphor screen imaging.
2~7: 0.1, 1,10, 50,100 and 1000 pg RNA
M: GMM100 DNA Ladder
Template: *E.coli* total RNA

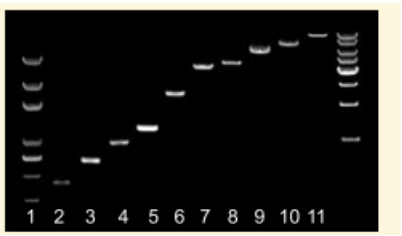


Figure 2. Amplification of different size of cDNA by One Step RT-PCR Kit iV.
Amplification of specific RNA from serial dilution of RNA templates with One-Step RT PCR Kit IV. RNA templates were prepared by *in vitro* transcription, and copies numbers were determined and calculated by spectrophotometer and gel phosphor screen imaging.
1: GMM100 DNA Ladder ; 12 GMM1000P DNA Marker plus.
2~11: Different size of amplified DNA.
Template: *E.coli* total RNA

Ordering Info

DESCRIPTION	Cat.No.	REACTION
One-Step RT-PCR Kit IV	RP01-IV	50
One-Step RT-PCR Kit IV	RP01-IV-250	250

PCR Related Products

One-Step RT-PCR Plus Kit III (SuperSAMscript Rtase III/GenTaq Plus)

Features

•Convenience :
One-tube, two-enzyme system, easy one-tube reaction.

•Characteristics:
Unique blend of SAMscript RTase and GenTaq Plus DNA polymerase with high sensitivity.

Useful for full-length cDNA amplification.

One-step RT-PCR for any RNA templates.

•High efficiency:
Optimized buffer for efficient reverse transcription with higher temperature and amplification.

•High fidelity:
Error frequency 1.6/10^6 during DNA synthesis.

Description

The One-Step RT-PCR Plus Kit provides one-tube, two-enzyme system for the reverse transcription and PCR amplification of a specific target RNA from either total RNA or mRNA. The system uses SuperSAMscript III reverse transcriptase for first-strand cDNA synthesis and GenTaq Plus DNA polymerase for PCR amplification. SuperSAMscript III RTase is a genetically engineered version of M-MLV RTase. GenTaq Plus DNA polymerase in the kit is an enzyme mixture of GenTaq and Pfu DNA polymerase. It has high fidelity with an error frequency of 1.6/10^6 during DNA synthesis, and the PCR product can be directly used for cloning to TA or expressional vectors.

Application

Reverse transcription of total RNA or mRNA, followed by cDNA PCR amplification.

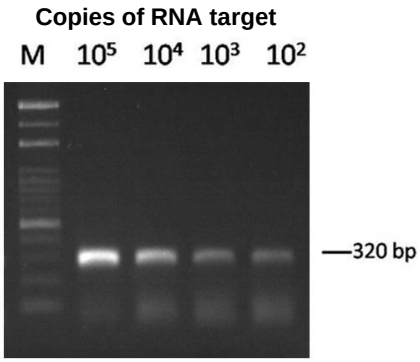


Figure 1. Sensitivity of One-Step RT-PCR Plus Kit. Amplification of specific RNA from serial dilution of RNA templates with One-Step RT-PCR Plus Kit. RNA templates were prepared by *in vitro* transcription, and copies numbers were determined and calculated by spectrophotometer and gel phosphor screen imaging. M: GM100 DNA Ladder

Ordering Info

DESCRIPTION	Cat.No.	REACTION
One-Step RT-PCR Plus Kit III	RP01-III-Plus	50

One-Step RT-PCR Plus Kit IV (SuperSAMscript Rtase IV/GenTaq Plus)

Features

•Convenience :
One-tube, two-enzyme system, easy one-tube reaction.

•Characteristics:
Unique blend of SuperSAMscript RTase and GenTaq Plus DNA polymerase with high sensitivity.

Useful for full-length cDNA amplification.

One-step RT-PCR for any RNA templates.

•High efficiency:
Optimized buffer for efficient reverse transcription with higher temperature and amplification.

•High fidelity:
Error frequency 1.6/10^6 during DNA synthesis.

Description

The One-Step RT-PCR Plus Kit is designed for the reverse transcription and PCR amplification of a specific target RNA from either total RNA or mRNA. The one-tube, two-enzyme system uses SuperSAMscript IV reverse transcriptase for first-strand cDNA synthesis and GenTaq Plus DNA polymerase for PCR amplification. SuperSAMscript RTase IV is a genetically engineered version of M-MLV RTase. GenTaq Plus DNA polymerase in the kit is an enzyme mixture of GenTaq and Pfu DNA polymerase. It has high fidelity with an error frequency of 1.6/10^6 during DNA synthesis, and the PCR product can be directly used for cloning to TA or expressional vectors.

Application

Reverse transcription of total RNA or mRNA, followed by cDNA PCR amplification.

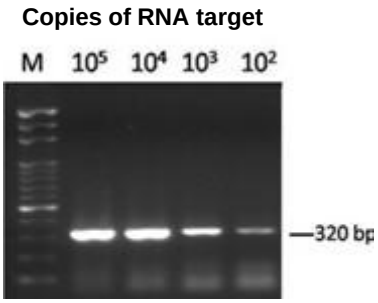


Figure 1. Sensitivity of One-Step RT-PCR Plus Kit. Amplification of specific RNA from serial dilution of RNA templates with One-Step RT-PCR Plus Kit. RNA templates were prepared by *in vitro* transcription, and copies numbers were determined and calculated by spectrophotometer and gel phosphor screen imaging. M: GM100 DNA Ladder

Ordering Info

DESCRIPTION	Cat.No.	REACTION
One-Step RT-PCR Plus Kit	RP01-III-Plus	50

PCR Related Products

One-Step RT-PCR Plus Kit (AMV/GenTaq Plus)

Features

•Convenience :
One-tube, two-enzyme system, easy one-tube reaction.

•Characteristics:
Unique blend of AMV RTase and GenTaq Plus DNA polymerase with high sensitivity.

AMV reverse transcriptase possesses 5' to 3' DNA polymerase activity.

Possess RNase H activity that breaks apart RNA:DNA hybrids.

Effective amplification up to 6 kb DNA.

•High efficiency:
Optimized buffer for efficient reverse transcription with higher temperature and amplification.

•High fidelity:
Error frequency 1.6/10^6 during DNA synthesis.

Description

The One-Step RT-PCR Plus Kit is designed for the reverse transcription and PCR amplification of a specific target RNA from either total RNA or mRNA. The one-tube, two-enzyme system uses AMV reverse transcriptase for first-strand cDNA synthesis and GenTaq Plus DNA polymerase for PCR amplification. AMV RTase is well suited for the preparation of cDNA for use as a PCR template and more efficient than M-MLV RTase. GenTaq Plus DNA polymerase in the kit is an enzyme mixture of GenTaq and Pfu DNA polymerase. It has high fidelity with an error frequency of 1.6/10^6 during DNA synthesis, and the PCR product can be directly used for cloning to TA or expressional vectors.

Application

Reverse transcription of total RNA or mRNA, followed by cDNA PCR amplification.

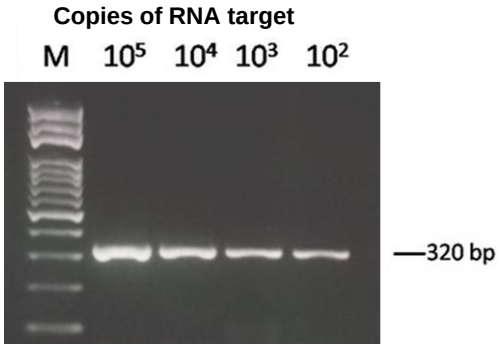


Figure 1. Sensitivity of One-Step RT-PCR Plus Kit. Amplification of specific RNA from serial dilution of RNA templates with One-Step RT-PCR Plus Kit. RNA templates were prepared by *in vitro* transcription, and copies numbers were determined and calculated by spectrophotometer and gel phosphor screen imaging. M: GM100 DNA Ladder

Ordering Info

DESCRIPTION	Cat.No.	REACTION
One-Step RT-PCR Plus Kit	RP01-Plus/A	50

PCR Related Products

Two-Step AMV RT-PCR Kit

Features

• Characteristics:
AMV reverse transcriptase possesses 5' to 3' DNA polymerase activity.

Possess RNase H activity that breaks apart RNA:DNA hybrids.

Effective amplification up to 6 kb DNA.

• Sensitivity:
Eliminate primer-dimer formation and mis-priming.

• Components:
Supplied as a 5X concentrated ready-to-use mix, that is, a 1X mixture of recombinant 1.5 U of Hot-Start Taq DNA polymerase, reaction buffer, 2 mM $MgCl_2$, 250 µM dNTPs and enzyme stabilizer sufficient to allow efficient amplification of template in 50 µl PCR.

Description

The Two-Step AMV RT-PCR Kit has all the components required to perform first-strand cDNA synthesis and second strand DNA amplification. Avian Myeloblastosis Virus Reverse Transcriptase (AMV RTase) can catalyze polymerization of DNA using DNA, RNA or DNA : RNA hybrids as templates. Besides possessing 5' to 3' DNA polymerase activity, the enzyme also possesses some RNase H activity, which breaks apart RNA:DNA hybrids. It is used primarily for the synthesis of first and second strand complementary DNA (cDNA) and primer extensions. In the cDNA synthesis step, RNA was reverse transcribed by AMV RTase to produce its cDNA. For the subsequent amplification of the cDNA template, PCR Hot-Start Master Mix II is provided. It can eliminate amplification artifacts such as primer-dimer formation and mis-priming during pre-amplification stage and thus may provide improved specificity. PCR Hot-Start Master Mix II can be used for effective amplification of DNA up to 6 kb in length.

Application

Second strand cDNA synthesis, PCR and cloning.

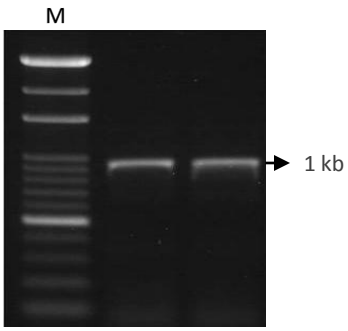


Figure 1. RT-PCR products of *E.coli* total RNA generated using Two-step AMV RT-PCR Kit.
E.coli (DH5α) total RNA is used as template to generate cDNA. *E.coli* fruK gene is further amplified using the same kit.
M: Gen100 DNA Ladder

Ordering Info

DESCRIPTION	Cat.No.	REACTION
Two-Step AMV RT-PCR kit	RP012-A	20

Two-Step SuperSAMscript III RT-PCR Kit

Features

• Characteristics:
Effective amplification of DNA up to 15 kb in length.

• High Sensitivity:
Eliminate primer-dimer formation and mis-priming.

• Components:
Supplied as a 5X concentrated ready-to-use mix, that is, a 1X mixture of recombinant 1.5 U of Hot-Start Taq DNA polymerase, reaction buffer, 2 mM $MgCl_2$, 250 μM dNTPs and enzyme stabilizer sufficient to allow efficient amplification of template in 50 μl PCR.

Description

The Two-Step SuperSAMscript III RT-PCR Kit is provided with all components required to perform first-strand cDNA synthesis and second strand DNA amplification. SAMscript RTase is genetically engineered version of M-MLV RTase which is a frequent choice for cDNA synthesis because of its ease of use and low intrinsic RNase H activity. In the cDNA synthesis step, RNA is reverse transcribed by SuperSAMscript III RTase to produce its cDNA. For the subsequent amplification of the cDNA template, PCR Hot-Start Master Mix II is provided. It can eliminate amplification artifacts such as primer-dimer formation and mis-priming during pre-amplification stage and thus may provide improved specificity. PCR Hot-Start Master Mix II can be used for effective amplification of DNA up to 15 kb in length.

Application

Second strand cDNA synthesis, PCR and cloning.

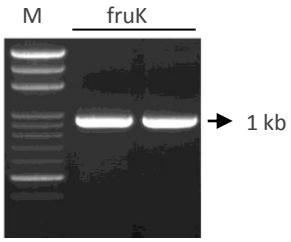


Figure1. RT-PCR result of *E.coli* (DH5α) total RNA with amplification of second- strand cDNA fruK gene.
GeneMark Two-Step SuperSAMscript III RT-PCR Kit is used for *E.coli* (DH5α) total RNA reverse-transcription into cDNA and fruK gene PCR amplification.
M: GM100 DNA Ladder

Ordering Info

DESCRIPTION	Cat.No.	REACTION
Two-Step SuperSAMscript III RT-PCR Kit	RP012-M3	50

Two-Step SuperSAMscript IV RT-PCR Kit

Features

• Characteristics:
Effective amplification of DNA up to 12 kb in length.

• High Sensitivity:
Eliminate primer-dimer formation and mis-priming.

• Components:
Supplied as a 5X concentrated ready-to-use mix, that is, a 1X mixture of recombinant 1.5 U of Hot-Start Taq DNA polymerase, reaction buffer, 2 mM $MgCl_2$, 250 μM dNTPs and enzyme stabilizer sufficient to allow efficient amplification of template in 50 μl PCR.

Description

The Two-Step SuperSAMscript IV RT-PCR Kit is provided with all components required to perform first-strand cDNA synthesis and second strand DNA amplification. SuperSAMscript IV RTase is genetically engineered version of M-MLV RTase which is ease of use and has no RNase H activity. In the cDNA synthesis step, RNA is reverse transcribed by SuperSAMscript IV RTase to produce its cDNA. For the subsequent amplification of the cDNA template, PCR Hot-Start Master Mix II is provided. It can eliminate amplification artifacts such as primer-dimer formation and mis-priming during pre-amplification stage and thus may provide improved specificity. PCR Hot-Start Master Mix II can be used for effective amplification of DNA up to 12 kb in length.

Application

Second strand cDNA synthesis, PCR and cloning.

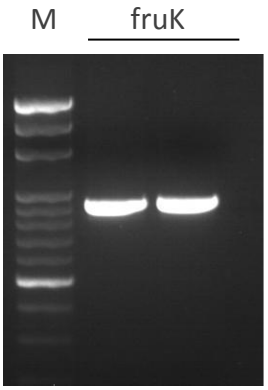


Figure1. RT-PCR result of *E.coli* (DH5α) total RNA with amplification of second- strand cDNA fruK gene.
GeneMark Two-Step SuperSAMscript IV RT-PCR Kit is used for *E.coli* (DH5α) total RNA reverse-transcription into cDNA and fruK gene PCR amplification.
M: GM100 DNA Ladder

Ordering Info

DESCRIPTION	Cat.No.	REACTION
Two-Step SuperSAMscript RT-PCR kit	RP012-SS	50

PCR Related Products

PCR Cloning Kits & DNA Ligation Kits

TOPOFast Cloning Kit

GM Seamless Cloning Kit

DNA Ligation Kit

SpeedLigA™ DNA Ligation Kit

TOPfast PCR Cloning Kit

Features

• Fast:
Short reaction time (5 min).

• High Efficiency:
>80% for < 3 kb inserts.

• Convenient:
Need not use ligase for ligation.

•Easy test: Need not use blue/white colonies selection

• Components:
TOPfast vector, reaction buffer, control plasmid and inserts, M13 primers, and competent cell.

Description

TOPfast PCR Cloning Kit is suitable for cloning Taq polymerase amplified PCR products (with blunt end or A-tail overhangs) at room temperature in 5 min. The vector provided in this kit contains topoisomerase covalently coupled to its ends, which allows efficient ligation of DNA fragments with A-tail overhangs to the vector without using a regular ligase.

Application

For cloning PCR products with 3'A-overhang.

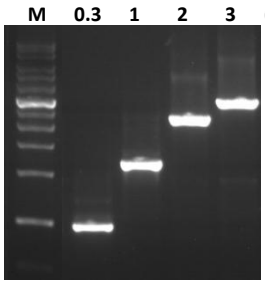


Figure 1. Colony PCR results from colonies carrying different sized inserts.

PCR products of 0.3 kb (50 ng/μl)、1 kb (50 ng/μl) 、2 kb (100 ng/μl) and 3 kb (150 ng/μl) were ligated to TOPfast PCR Cloning Vectors, and colony PCR was performed using M13 primers.
For successful clones, the PCR result should be ~202 bp plus the insert size.
M : Gen-KB DNA Ladder

	25 ℃ 5 min				
	N	**0.3 kb**	**1 kb**	**2 kb**	**3 kb**
Total colonies	17	2884	3604	1584	1456
Blue (%)	94.1	1.5	1.4	2.8	42.3
White (%)	5.9	98.5	98.6	97.2	57.7
postive(%)		**100**	**100**	**100**	**90**

Blue/white screen and positive ratio.

Application

For cloning PCR products with blunt ends.

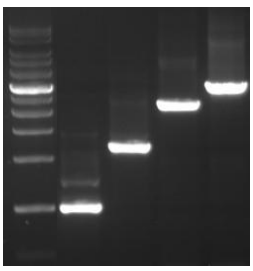


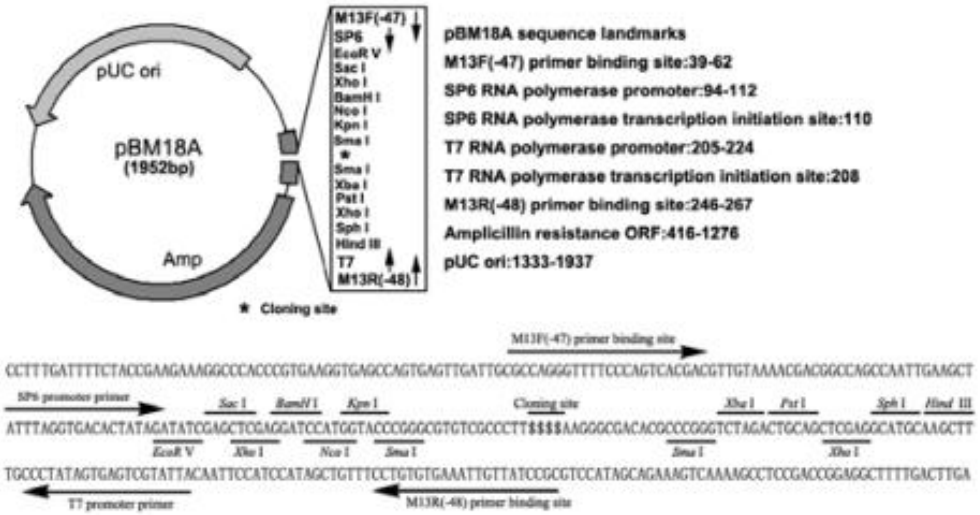
Figure 1. Colony PCR results from colonies carrying different sized inserts.

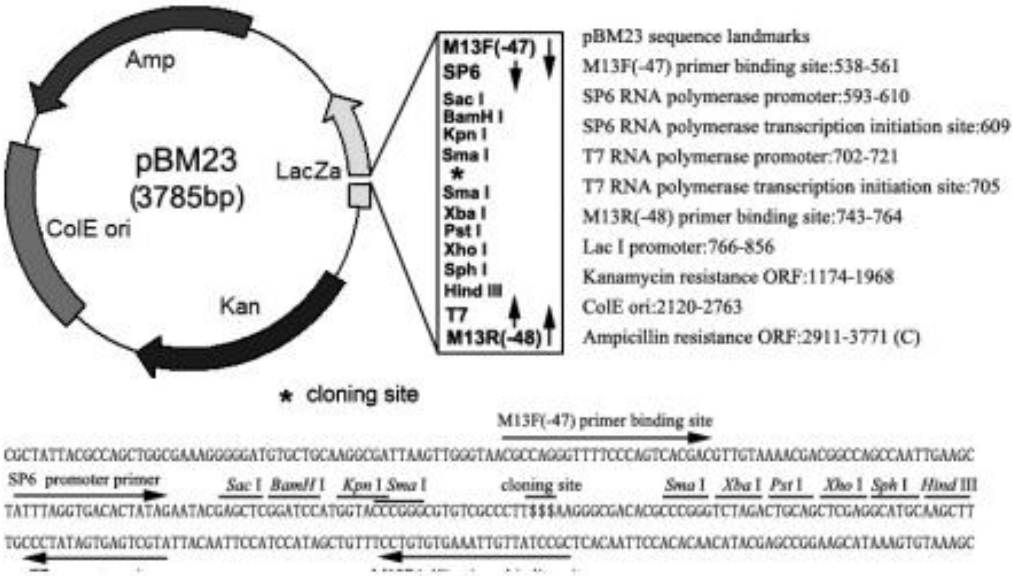
PCR products of 0.3 kb (50 ng/μl) , 1 kb (50 ng/μl), 2 kb (100 ng/μl) and 3 kb (150 ng/μl) were ligated to TOPBlunt PCR Cloning Vectors, and colony PCR was performed using M13 primers.
For successful clones, the PCR result should be ~202 bp plus the insert size.
M : Gen100 DNA Ladder

	25 ℃ 5 min				
	N	**300 bp**	**1 kb**	**2 kb**	**3 kb**
Total colonies	36	2856	3664	1186	91
Blue (%)	83.3	16	2.2	0.3	12.1
White (%)	16.7	84	97.8	99.7	87.9
postive(%)		**100**	**90**	**100**	**80**

TOPFast PCR Cloning Kit

TOPfast Vector Map and Vector Cloning Site



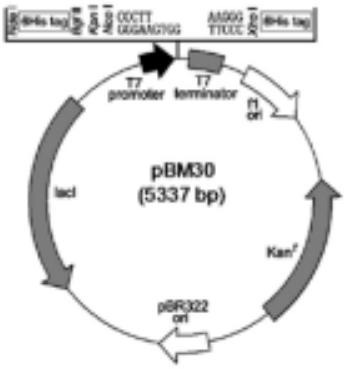


Ordering Info

DESCRIPTION	Cat.No.	PACKAGE
pBM16A TOPOFast PCR Cloning Kit, 20r	GBM16A	20r
pBM23 TOPOFast PCR Cloning Kit, 20r	GBM23	20r
pGTO130 TOPOFast PCR Cloning Kit, 20r (Prokaryotic)	GBM30	20r
pGTO140 TOPOFast PCR Cloning Kit, 20r (Eukaryotic)	GBM40	20r

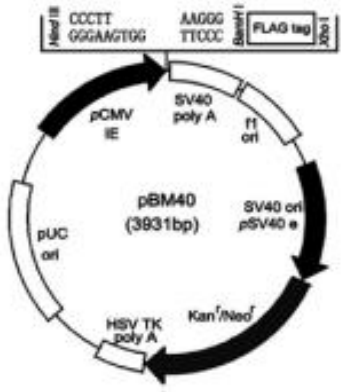
TOPFast PCR Cloning Kit

TOPfast Vector Map and Vector Cloning Site



pBM30 sequence landmarks
T7 Promoter:138-154
His tag sequence:229-246; 397-414
S tag sequence:280-324
Cloning site: 375
T7 terminator:482-528
f1 origin:564-953
Kan coding sequence:1046-1861(C)
pBR322 origin: 2571
lacI coding sequence:4001-5083(C)
(C):complementary sequence

T7 promoter primer
T7 promoter
GCCGGTGATGCCGGCCACGATGCGTCCGGCGTAGAGGATCGAGATCGATCTCGATCCCGCGAAATTAATACGACTCACTATAGGGGAATTGTG
lac operator *Xba* I RBS *Nde* I His Tag
AGCGGATAACAATTCCCCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATACATATGCACCATCATCATCATCATTCTTCTGGTCTG
MetHisHisHisHisHisHisSerSerGlyLeu
Bgl II *Kpn* I
GTGCCACGCGGTTCTGGTATGAAAGAAACCGCTGCTGCTAAATTCGAACGCCAGCACATGGACAGCCCAGATCTGGGTACCGACGACGACGAC
ValProArgGlySerGlyMetLysGluThrAlaAlaAlaLysPheGluArgGlnHisMetAspSerProAspLeuGlyThrAspAspAspAsp
Thrombin S.Tag
Nco I cloning site *Xho* I His Tag
AAGGCCATGGTTGTGTCGCCCTTCACC$$$AAGGGCGACACCCTCGAGCACCACCACCACCACCACTGAGATCCGGCTGCTAACAAAGCCCG
LysAlaMetValValSerProPheThr$$$LysGlyAspThrLeuGluHisHisHisHisHisHis
Enterokinase T7 terminator
AAAGGAAGCTGAGTTGGCTGCTGCCACCGCTGAGCAATAACTAGCATAACCCCTTGGGGCCTCTAAACGGGTCTTGAGGGGTTTTTTGCTGA
T7 terminator primer



pBM40 sequence landmarks
CMV immediate early promoter:1-589
CMV promoter forward primer binding site:519 -539
Cloning site:625
FLAG coding sequence:644-667
SV40 early mRNA polyadenylation signal:818-868
SV40 PolyA reverse primer binding site:824-843
f1 single-strand DNA origin:915-1202
Bacterial promoter for expression of Kanamycin:1264-1392
SV40 origin of replication:1643-1778
SV40 early promoter:1476-1744
Kanamycin/neomycin resistance gene:1827-2621
HSV TK polyadenylation signal:2857-2875
pUC plasmid replication origin:3206-3849

CMV forward primer binding site
CGTAACAACTCCGCCCCATTGACGCAAATGGGCGGTAGGCGTGTACGGTGGGAGGTCTATATAAGCAGAGCTGGTTTAGTGAACCGTCAGAT
Hind III cloning site *Bam*H I flag tag coding sequence *Xho* I
CCGCTAGCGCTACCGGAAGCTTGTGTCGCCCTTCACC$$$AAGGGCGACACCGGATCCGACTACAAGGATGACGATGACAAGTAACTCGAGA
GGCGATCGCGATGGCCTTCGAACACAGCGGGAAGTGG$$$TTCCCGCTGTGGCCTAGGCTGATGTTCCTACTGCTACTGTTCATTGAGCTCT
GATCCTCATAATCAGCCATACCACATTTGTAGAGGTTTTACTTGCTTTAAAAAACCTCCCACACCTCCCCCTGAACCTGAAACATAAAATGA
ATGCAATTGTTGTTGTTAACTTGTTTATTGCAGCTTATAATGGTTACAAATAAAGCAATAGCATCACAAATTTCACAAATAAAGCA
SV40 PolyA reverse primer binding site

PCR Related Products

GM Seamless Cloning

Features

• Fast:
The reaction time only takes 15 min.

• Easy to use:
Convenient lyophilized format of all the reaction components in a single reaction tube.

•Efficient:
Can be used to clone very long DNA fragments.

• Flexibility:
Clone single or multiple fragments into any location of a cloning vector.

• Low background:
Ligase-independent, thus eliminating background.

• Components:
Cloning DryMIX, pUC19 control vector and control insert.

Description

The GM seamless Cloning is designed for rapid and efficient cloning of PCR-amplified DNA fragments into any cloning vector including commercial and customized ones. It is also possible to insert one or more DNA fragments into a cloning vector in a defined orientation. GM Seamless Cloning allows terminal 15~25 base pair overlapping homologous DNA at the ends of linearized vectors and inserts DNA fragments to precisely recombine to generate cloning products.

Application

For cloning PCR products or multiple fragments.

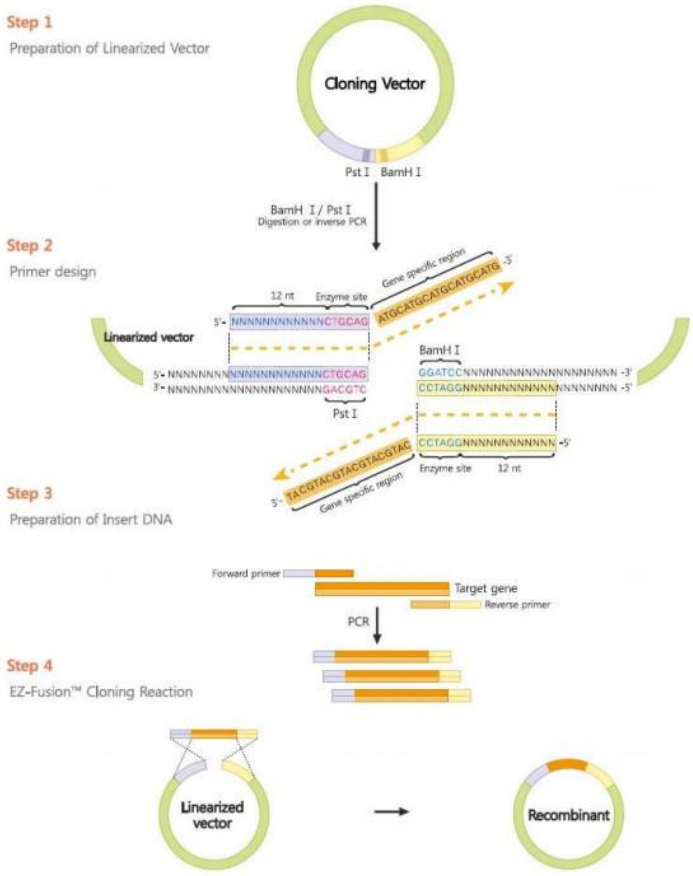


Figure 1. Summary of GM Seamless Cloning.

Ordering Info

DESCRIPTION	Cat.No.	REACTION
GM Seamless Cloning Kit, 20r	GMS116	20r
pUC57-simpleEVL Seamless cloning kit, 20r	GMS120	20r
2× GM SeamLess Mix, 20r	GMS117	20r

SpeedLigA™ DNA Ligation Kit

Description

The SpeedLigA™ DNA Ligation Kit enables ligation of cohesive ends in 5 minutes at room temperature, and 5~20 minutes for blunt ends. PCR product TA cloning takes only an hour of incubation.

Application

Suitable for cohesive or blunt ends, all common ligation, linker addition, TA cloning, library construction.

Features

•Speed:
DNA ligation completes within 5~20 minutes at room temperature (cohesive or blunt end).

•Easy:
Can be used for DNA ligation, linker addition, TA cloning, library construction.

•Complete packaging:
All buffers and enzymes needed are included, need not to prepare separately.

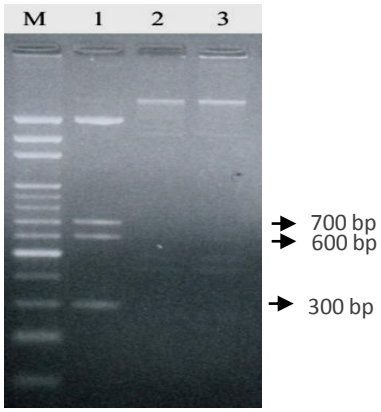
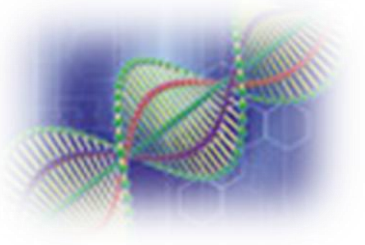


Figure 1. pGEM-7Zf (+) DNA were ligated with 300 bp, 600 bp and 700 bp DNA fragments by SpeedLigA™ DNA Ligation Kit.
Lane 1: Before ligation, pGEM-7Zf (+) DNA/EcoRI and 300 bp, 600 bp and 700 bp/EcoRI DNA fragments.
Lane 2: After 2 minutes at RT, then 70℃ 15 minutes inactivation.
Lane 3: After 5 minutes at RT, then 70℃ 15 minutes inactivation.
M: Gen100 DNA Ladder

Ordering Info

DESCRIPTION	Cat.No.	REACTION
SpeedLigA™ DNA Ligation Kit	SL01	30
SpeedLigA™ DNA Ligation Kit	SL01-150	150

PCR Related Products



Mutagenesis Kit & *In Vitro* Transcription Kit

Mutagenesis Kit

SAMchange Multi Site-directed Mutagenesis Kit

SAMchange Multi Site-directed Mutagenesis core Kit

In Vitro Transcription Kit

SAMreal High Yield In Vitro Transcription Kit

SAMchange Multi Site-directed Mutagenesis Kit

Features

• Characteristics:
Can be used for multiple mutation.

High efficiency.

• Complete Packaging:
All the components (expect templates and primers) needed for mutagenesis are included, need not to prepare separately.

Description

The SAMchange Multi Site-directed Mutagenesis Kit is designed to create multiple site-directed mutations in plasmid DNA. The product consists of three processes: amplification, Dpn I digestion and transformation. This simple and quick procedure provides high mutagenesis efficiency greater than 50%, even with multiple mutation.

Application

Substitution, single or multiple deletions and insertion mutation.

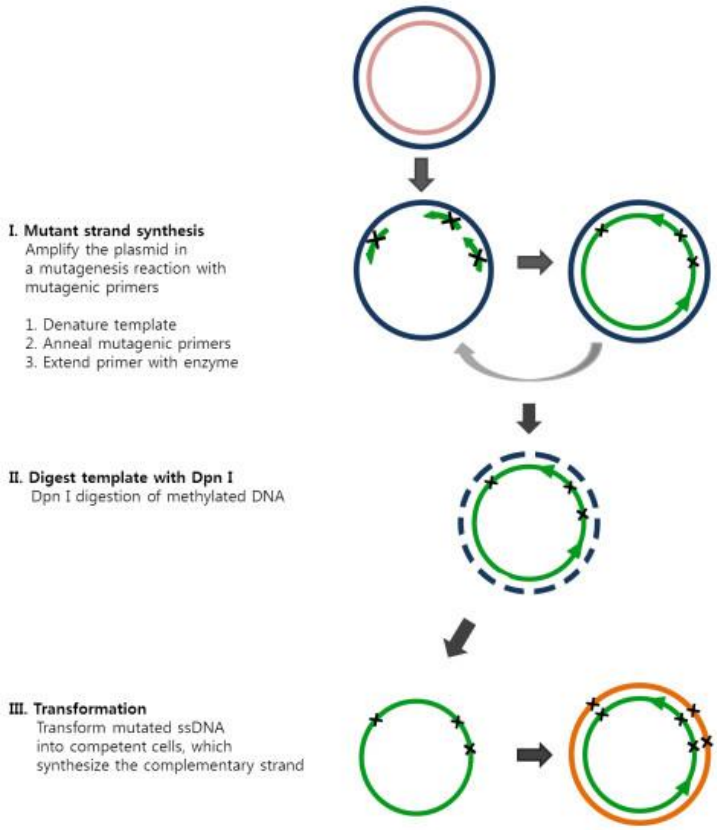


Figure 1. The principle of multi mutagenesis method.

Ordering Info

DESCRIPTION	Cat.No.	REACTION
SAMchange Multi Site-directed Mutagenesis Kit	GSD023S	10
SAMchange Multi Site-directed Mutagenesis core Kit (Not including competent cell)	GSD024S	10

SAMreal High Yield *In Vitro* Transcription Kit

Features

• Characteristics:
Contain T7, T3 and SP6 polymerases in the kit.

High efficiency and high yield.

• Complete Packaging:
All the components needed for *in vitro* transcription reactions are included, need not to prepare separately.

Description

The SAMreal High Yield *In Vitro* Transcription Kit is designed for high yield *in vitro* transcription from DNA templates containing T7, T3 and SP6 RNA polymerase promoters. The complete kit includes these RNA polymerases and all of the required reagents for performing transcription reactions *in vitro*. Each standard reaction yields up to 180 µg of RNA from 1 µg control template in 1 hour. The synthesized RNA is suitable for variety of applications that require large amounts of RNA.

Application

In vitro translation, anti-sense RNA and RNAi studies, RNase protection assays, RNA splicing study, isolation of RNA binding proteins and *in situ* hybridization.

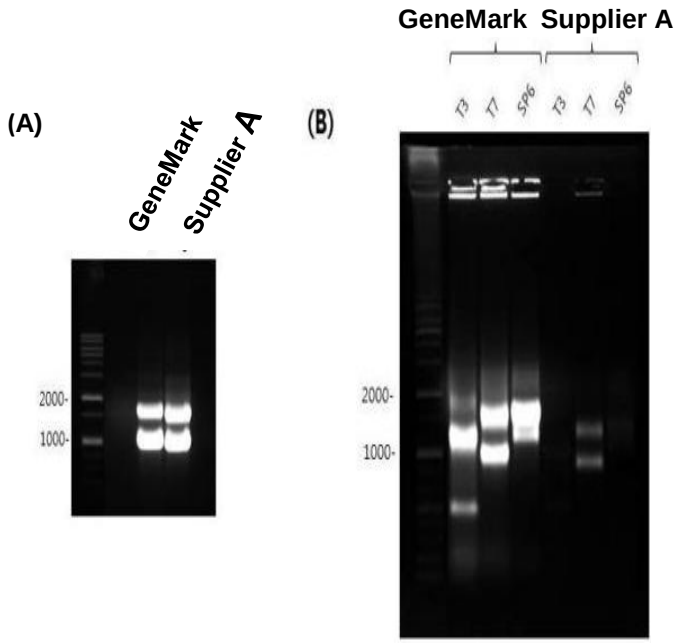


Figure 1. Transcription results using SAMreal High Yield *in vitro* Transcription Kit.
Standard reactions were incubated at 37℃ in a water bath for 1 hour. RNA transcripts were analyzed on 1% agarose gels.
(A) Compared with other *in vitro* transcription kit from Supplier A. 2,000, 1,000 base RNA transcripts were generated using T7 RNA polymerase.
(B) Compared with other *in vitro* transcription kit from Supplier A. 2,500, 1,500 and 250 base RNA transcripts were generated using T3, T7 and SP6 RNA polymerases.

Ordering Info

DESCRIPTION	Cat.No.	REACTION
SAMreal High Yield *In Vitro* Transcription Kit	GIT026S	25

PCR Related Products

PCR Thermal Cycler

- Gradient PCR machine
- Accurate temperature change
- With Tm calculator

Specifications	GM-F4000	GM-F6000
Display	7'' color Touch Screen, graphical display of protocols and running status	
Max. Heating/Cooling Rate	5℃/5℃	6℃/5℃
Gradient Range	30℃~99.9℃	
Temp. Differential Range	Max. 30℃	
Gradient Accuracy	≤±0.1℃	
Max. Number of programs	Max. 10,000 programs on board	Max. 15,000 programs on board
Tm Calculator	Automatically calculates the melting and annealing temperature with two primer sequences	
Heated Lid Temperature Range	30℃~112℃	

Protein Related Product

Protein Quantitation Assay Kits

Features

• Convenient:
Ready-to-use, dye-binding reagent formula.

• Sensitivity :
Fast color development; measured at 595 nm.

• Wide range:
Useful for determining protein concentration from 50~1,000 µg/ml.

Description

The kit includes Coomassie Protein Assay Reagent and a package of Albumin Standard Reagent. The simple procedure is adaptable to nearly any volume scale, including test tubes and microplates. Binding of protein to Coomassie dye under acidic environment of the reagent results in spectral shift from reddish/brown form of dye (absorbance maximum at 465 nm) to the blue form of dye (absorbance maximum at 610 nm). The difference between the two forms of the dye is greatest at 595 nm, which is the optimal wavelength to measure the blue color from the Coomassie dye-protein complex.

Application

Determination of protein concentration.

Ordering Info

DESCRIPTION	Cat.No.	Size
Bradford Assay Kit	GPA102-0500	165 preps (tube test)/825 preps (microplate test), 500 ml
Bradford Assay Kit	GPA102-1000	330 preps (tube test)/1650 preps (microplate test),1000 ml

Modified Enzymes

	Product	Cat. No.
DNA Polymerases	Bst DNA Polymerase	GBP005
Nucleases	RNase H	GD036
	RNase A	GRB0473
	DNase I (RNase-free)	GM0649
	GM RNase Inhibitor (DNase RNase-free)	GRI-M007
Ligases	T4 DNA Ligase	GDL039
Transferase	Terminal Deoxynucleotidyl Transferase	GD020
DNA Dependent RNA Polymerases	T7 RNA Polymerase	GRP002AB
	SP6 RNA Polymerase	GRP003
	T3 RNA Polymerase	GRP004
Reverse Transcriptase	AMV Reverse Transcriptase	B0999
	SuperSAMscript Reverse III Transcriptase	GRT003
	SuperSAMscript Reverse IV Transcriptase	GRT004
Proteinase	Proteinase K	GM-PK

DNA Polymerases

Bst DNA Polymerase (Full length)

Description

Full Length Bacillus stearothermophilus Bst DNA Polymerase is highly purified as a recombinant. Other than 5´ → 3´ polymerase activity, it has double-strand specific 5´ → 3´ exonuclease activity, but lacks 3´→ 5´ exonuclease activity.

Application

Isothermal amplification, such as LAMP.

Ordering Info

Cat.No.	Conc.	SIZE
GBP005S	5U/μl	500 U
GBP005L	5U/μl	2500 U

Nucleases

RNase H

Cat.No.	Conc.	SIZE
GD036S	5U/μl	250 U
GD036L	5U/μl	1250 U

Description

E.coli RNase H (Ribonuclease H) is an endoribonuclease that specifically hydrolyzes the phosphodiester bonds of RNA which is hybridized to DNA. This enzyme does not digest single or double stranded DNA.

Application

Removal of the RNA strand prior to secend-strand cDNA synthesis, microarrays.

RNase A

Cat.No.	SIZE
GRB0473-100	100 mg
GRB0473-250	250 mg
GRB0473-500	500 mg
GRB0473-1g	1 g
Conc.	> 60 U/mg

Description

Pancreatic, high purity grade. A major application for Ribonuclease A (RNase A) is the removal of RNA from preparations of plasmid DNA.

Application

Removal of RNA from preparation of plasmid DNA and preparation of RNA-free DNA.

DNase I (RNase-free)

Cat.No.	Conc.	SIZE
GM0649	2U/μl	2000 U

Description

DNase I is lyophilized from Bovine Pancreas, and is essentially RNase-free. It is an endonuclease that digests single- and double-stranded DNA. It hydrolyzes phosphodiester bonds producing oligodeoxyribonucleotides with 5'-phosphate and 3'-OH groups.

Application

RNase-free DNase I can be used for single- and double-stranded DNA digestion in RNA purification or any other RNA related applications.

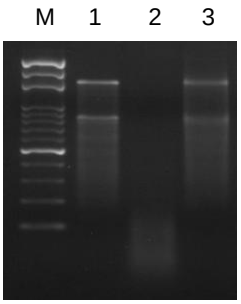


Figure 1. Gel electrophoresis analysis of total RNA treated with GeneMark RNase-free DNase I (Cat#:GM0649). RNA products were treated with DNase I for 15 min at 37℃, and analyzed on 2 % agarose gel.
Lane 1: 1 μg of total RNA purified using GeneMark total RNA purification kit.
Lane 2: 1 μg of total RNA treated with 2.4 U of DNase I (non-RNase-free).
Lane 3: 1 μg of total RNA treated with 1 U of DNase I (RNase-free).

Nucleases

GM RNase Inhibitor (DNase RNase-free)

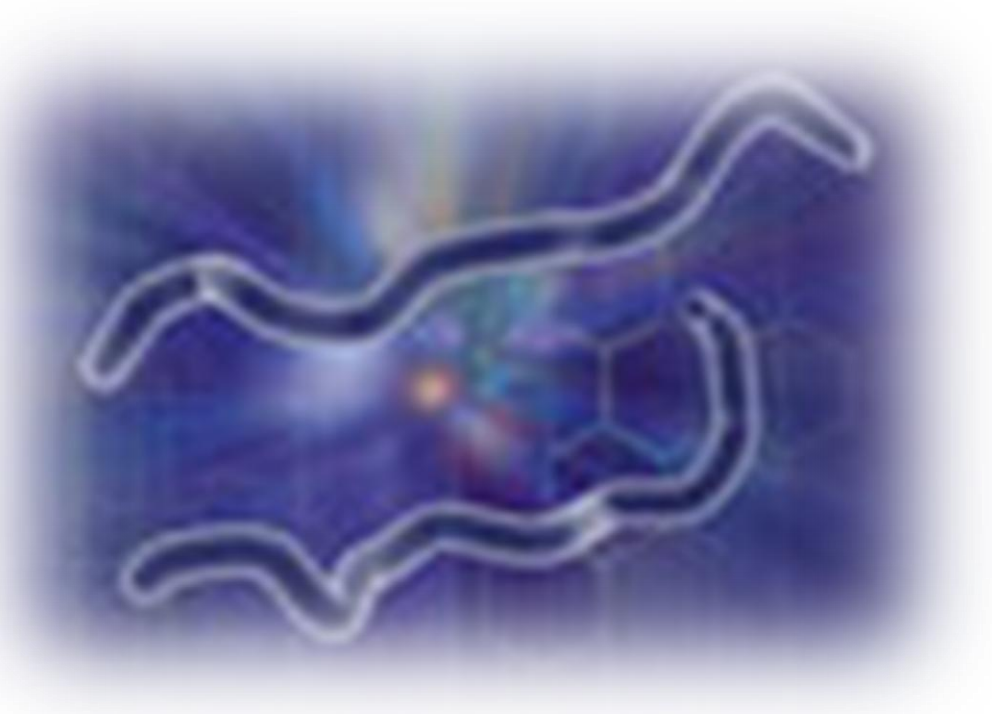
Description

A cDNA encoding human RNase Inhibitor was expressed in *E.coli* cells, and its recombinant protein was purified to near homogeneity. This product strongly inhibits major nonspecific ribonucleases that include RNase A, B, C and human placental RNase. However, it does not inhibit sequence-specific ribonucleases or ribonuclease activities associated with DNA or RNA polymerases which include RNase T1, S1 nuclease and RNase from *Aspergillus sp*.

Cat.No.	SIZE
GRI-M007S	2000 U
GRI-M007L	5 x 2000 U
Conc.	40U/μl

Application

cDNA synthesis, *in vitro* transcription, polysome isolation.



Ligases

T4 DNA Ligase

Description

A gene encoding bacteriophage T4 DNA Ligase is cloned and expressed in *E.coli*, and the recombinant T4 DNA Ligase is purified to homogeneity. This enzyme catalyzes the formation of a covalent bond between the 5'-phosphate and 3'-OH in nicked duplex DNA or at two DNA ends. This activity is very useful to ligate DNA fragments with either cohesive or blunt ends that are generated by restriction enzyme digestion. T4 DNA Ligase can also ligate RNA with DNA or RNA in a double helix with low efficiency. Single strands of DNA or RNA can not be ligated with T4 DNA Ligase.

Cat.No.	SIZE
GDL001LS	10000 U
GDL001LM	40000 U
GDL001LL	200000 U
GDL001HL (High Conc.)	200000 U
Conc.	400U/μl
	2000U/μl (High Conc.)

Application

Ligation of blunt ends or compatible cohesive ends.

Transferase

Terminal Deoxynucleotidyl Transferase

Description

Terminal Deoxynucleotidyl Transferase (TdT), also called terminal transferase, is a template-independent DNA polymerase that catalyzes the addition of nucleotides to the 3'-OH terminus of DNA, accompanied by the release of inorganic phosphate. TdT acts on single-stranded DNA, including 3' overhangs of double-stranded DNA. TdT does not contain a 5' or 3' exonuclease domain. A gene encoding Terminal Deoxynucleotidyl Transferase (TdT) is cloned and expressed in *E.coli*, and the recombinant TdT is purified to homogeneity.

Application

Labeling of the 3' termini of DNA, addition of homopolymer tails to the 3' ends of DNA and DNA sequencing.

Ordering Info

Cat.No.	Conc.	SIZE
GD020S	20U/μl	500 U
GD020L	20U/μl	2500 U

DNA Dependent RNA Polymerase

T7 RNA Polymerase

Cat.No.	SIZE
GRP002AB	5000 U
GRP002L	25000 U
Conc.	50U/μl

Description

T7 RNA Polymerase is expressed and purified from *E.coli* to near homogeneity. This product has increased thermostability. It can utilize the T7 promoter in double-stranded DNA to transcribe a gene located downstream of the promoter.

Application

Preparation of radioisotope-labeled RNA probe, RNA synthesis for *in vitro* translation and preparation of anti-sense RNA for gene expression studies.

SP6 RNA Polymerase

Cat.No.	SIZE
GRP003S	2000 U
GRP003L	10000 U
Conc.	20U/μl

Description

SP6 RNA Polymerase catalyzes RNA synthesis in the 5' to 3' direction. It requires the presence of a DNA template which contains a SP6 phage promoter.

Application

Radiolabeled RNA probe preparation, RNA generation for *in vitro* translation, expression control via anti-sense RNA and preparation of mRNA.

T3 RNA Polymerase

Cat.No.	SIZE
GRP004S	2000 U
GRP004L	10000 U
Conc.	20U/μl

Description

T3 RNA Polymerase is highly specific for its own promoter of a conserved 23 bp sequence. This sequence does not efficiently recognize by SP6 or T7 RNA Polymerases. Therefore, without cross-talk from nearby SP6 or T7 promoters, it will transcribe large amounts of RNA from DNA sequences.

Application

mRNA generation for *in vitro* translation system, radiolabeled RNA probe preparation, genomic sequencing and RNase protection studies.

Reverse Transcriptase

AMV Reverse Transcriptase

Cat.No.	Conc.	SIZE
B0999	10U/μl	200 U

Description

The AMV Reverse Transcriptase is a DNA polymerase which catalyzes the polymerization of DNA, using DNA, RNA or DNA:RNA hybrids as templates. Besides possessing 5' to 3' DNA polymerase activity, the enzyme also possesses some RNase H activity, which breaks apart RNA:DNA hybrids. It is used primarily for the synthesis of first and second strand cDNA and primer extensions. To a lesser extent, it is used for RNA sequencing and the preparation of probes for hybridization.
(Source: Avian Myeloblastosis Virus particles)

Application

For the synthesis of first and second strand cDNA, primer extensions, RNA sequencing, preparation of probes for hybridization.

SuperSAMscript III Reverse Transcriptase

Cat.No.	Conc.	SIZE
GRT003M	200U/μl	10000 U
GRT003L	200U/μl	50000 U

Description

SuperSAMscript III Reverse Transcriptase (SuperSAMscript III RTase) is a mutant of M-MLV RTase with reduced RNase H activity and increased thermo stability. SuperSAMscript Rtase III possesses high sensitivity and can synthesize cDNA in reaction temperature in 37~55 ℃. It shows improved cDNA yields and is capable of synthesizing cDNA from 100 bp to 15 kb or more.

Application

Synthesis of first-strand cDNA, array labeling, cDNA library construction, 3' and 5' RACE, RT-PCR and primer extension.

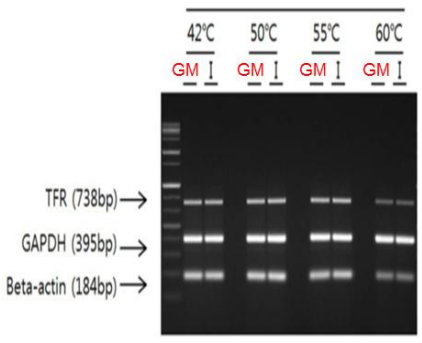


Figure 1. Thermo stability of SuperSAMscript III RTase on 3 targets.
cDNA was synthesized from 500 ng total HeLa RNA for beta-actin 184 bp, GAPDH 395 bp and TFR 738 bp. One-tenth of the cDNA reaction was used for 30 cycles of PCR.
GM: GeneMark SuperSAMscript III RTase.
I: Similar product from Supplier I.

Reverse Transcriptase

SuperSAMscript IV Reverse Transcriptase

Cat.No.	Conc.	Package
GRT004M	200U/μl	10000 U
GRT004L	200U/μl	50000 U

Description

SuperSAMscript IV Reverse Transcriptase (SuperSAMscript RTase) is a genetically engineered version of M-MLV RTase. It is highly thermostable, and thus can synthesize cDNA at elevated temperature in **42~65℃**. This property is very useful when RNA templates are long and have extensive secondary structures. SuperSAMscript RTase is capable of synthesizing cDNA longer than 12 kb from mRNA.

Application

First strand cDNA synthesis, especially long cDNA.

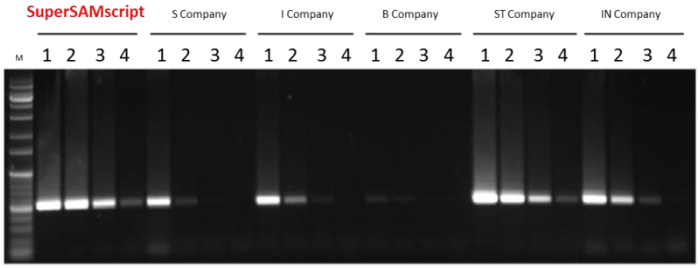


Figure 1. Reverse transcription reaction was carried out at 60℃ using commercially available reverse transcriptase from different suppliers.

Proteinase

Proteinase K

Cat.No.	SIZE
GM-PK0100	100 mg
GM-PK0500	500 mg
GM-PK1000	1 g
Conc.	> 30U/mg

Description

Proteinase K is a non-specific serine protease isolated from *Tritirachium album*. It is highly active and stable. The Proteinase K powder is highly soluble (>50 mg/ml), and commonly provided as a 20 mg/ml liquid stock solution. This enzyme belongs to the group of subtilisine-related serine proteases and is strongly inhibited by PMSF.

Application

Proteinase K is used in isolating RNA, gDNA and digesting unwanted proteins during DNA and RNA preparations. It is also used in glycoprotein modification and protein structure studies. Proteinase K is active with SDS, urea and EDTA.

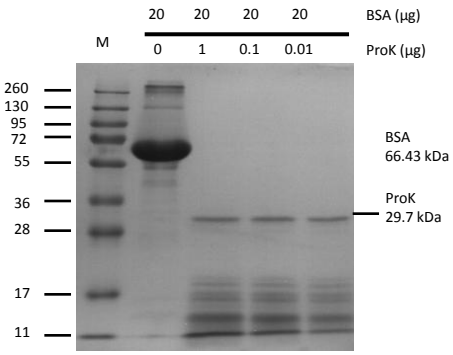
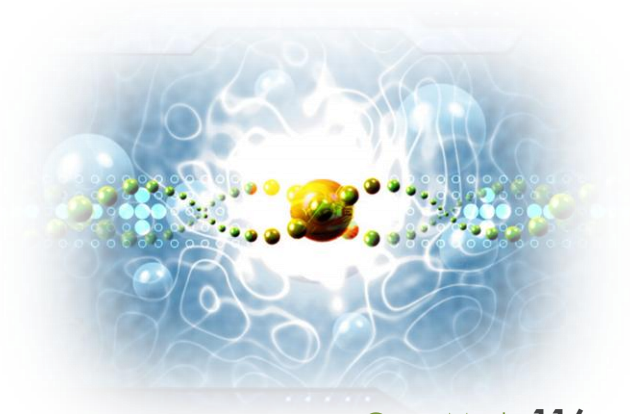


Figure 1. BSA digestion using different concentration of Proteinase K.
20 μg BSA is treated with Proteinase K (Prok) of different concentrations (lane 2~4; 1 μg, 0.1 μg. 0.01 μg, respectively). BSA protein can be fully digested when treated with 0.01 μg of Proteinase K.
M: Protein Marker

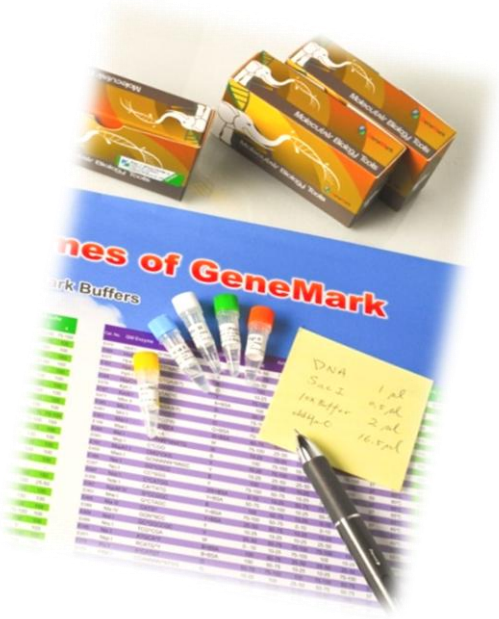


Restriction Enzymes

Order List of Restriction Endonucleases.....144

GM Buffer Activity Chart for Restriction Endonucleases.....149

A Aat II Acc I **Acc III** Acc65 I **Acl I** Afl II **Age I** FastCut Age I **Ahd I** Alu I Alw26 I **Apa I** ApaL I Asc I **Ava I** Ava II Avr II **B** Bal I **BamH I** FastCut BamH I Bbs I Bcl I **Bgl I** Bgl II **Bsa I** BsaW I BsiW I BsmB I BsmF I **BsoB I** BsrF I BssH II BstE II BstN I BstX I BstY I BtsC I **C** Cfr42 I Cfr9 I **D** Dde I **Dpn I** Dpn II Dra I **E** **Ear I** Eco47 I EcoN I EcoO109 I **EcoR I** FastCut EcoR I **EcoR V** FastCut EcoR V EcoT38 I **F** **Fok I** Fsp I **H** Hae II **Hae III** Hga I Hinc II **Hind III** Hinf I HinP1 I **Hpa I** Hpa II **Hph I** Hpy188 I Hpy99 I HpyCH4 V **K** **Kpn I** FastCut Kpn I **M** Mbo I Mbo II **Mlu I** Mnl I Mse I Msp I MspA1 I **N** Nae I **Nar I** Nci I Nco I FastCut Nco I **Nde I** NgoM IV **Nhe I** FastCut Nhe I Nla IV **Not I** FastCut Not I Nru I Nsi I Nt. BstNB I **P** Ple I PpuM I PshA I Pst I **Pvu I** Pvu II FastCut Pvu II **R** Rsa I **S** **Sac I** FastCut Sac I Sac II **Sal I** FastCut Sal I Sap I Sau96 I **Sca I** FastCut Sca I **Sda I** SfaN I Sfi I SgrA I Sma I SnaB I **Spe I** Sph I FastCut Sph I Sse9 I **Ssp I** FastCut Ssp I Stu I Swa I **T** **Taq I** Tsp509 I **X** Xba I Xho I **Xma I**



Restriction Enzymes

Order List of Restriction Endonucleases

Enzyme	Sequence	Cat.No.	Package U/vial
Aat II	GACGT/C	SZ001S SZ001M SZ001L	100 500 2500
Acc I	GT/MKAC	SZ002S SZ002M SZ002L	200 1000 5000
Acc III	T/CCGGA	SZ003S SZ003M SZ003L	100 200 1000
Acc65 I	G/GTACC	SZS092S SZS092M SZS092L	250 1000 5000
Acl I	AA/CGTT	SZS011S SZS011M SZS011L	100 200 1000
Afl II	C/TTAAG	SZ004S SZ004M	400 2000
Age I	A/CCGGT	SZ005S SZ005M	100 500
Ahd I	GACNNN/NNGTC	SZS104S SZS104M	200 1000
Alu I	AG/CT	SZS112S SZS112M SZS112L	100 400 2000
Alw26 I	GTCTC(1/5)	SZ006S SZ003M SZ003L	200 1000 5000
Apa I	GGGCC/C	SZS093S SZS093M SZS093L	1000 5000 25000
ApaL I	G/TGCAC	SZ008S SZ008M SZ008L	200 1000 5000
Asc I	GG/CGCGCC	SZ009S SZ009M SZ009L	100 500 2500
Ava I	C/YCGRG	SZ010S SZ010M	200 1000

Enzyme	Sequence	Cat.No.	Package U/vial
Ava II	G/GWCC	SZ011S SZ011M SZ011L	400 1000 5000
Avr II	C/CTAGG	SZ012S SZ012M	100 500
Bal I	TGG/CCA	SZ013S SZ013M	50 250
BamH I	G/GATCC	SZ014S SZ014M SZ014L	2000 10000 50000
Bbs I	GAAGAC(2/6)	SZS297S SZS297M SZS297L	100 200 1000
Bcl I	T/GATCA	SZ015S SZ015M SZ015L	600 3000 15000
Bgl I	GCCNNNN/NGGC	SZ016S SZ016M SZ016L	200 1000 5000
Bgl II	A/GATCT	SZ017S SZ017M SZ017L	400 2000 10000
Bsa I	GGTCTC(1/5)	SZ018S SZ018M SZ018L	100 500 2500
BsaW I	W/CCGGW	SZ019S SZ019M SZ019L	50 250 1000
BsiW I	C/GTACG	SZ020S SZ020M SZ020L	100 300 1500
Bsm B I	CGTCTC(1/5)	SZ021S SZ021M SZ021L	50 200 1000
BsmF I	GGGAC(10/14)	SZS479S SZS479M	100 500
BsoB I	C/YCGRG	SZ022S SZ022M SZ022L	2000 10000 50000

Restriction Enzymes

Order List of Restriction Endonucleases

Enzyme	Sequence	Cat.No.	Package U/vial
BsrF I	R/CCGGY	SZ023S SZ023M	200 1000
BssH II	G/CGCGC	SZS102S SZS102M	200 1000
BstE II	G/GTNACC	SZS169S SZS169M SZS169L	500 2000 10000
BstN I	CC/WGG	SZS095S SZS095M SZS095L	1000 2000 10000
BstX I	CAANNNNN/NTGG	SZS110S SZS110M SZS110L	100 500 2500
BstY I	R/GATCY	SZ024S SZ024M SZ024L	100 500 2500
BtsC I	GGATG(2/0)	SZ025S SZ025M	400 2000
Cfr42 I	CCGC/GG	SZ026S SZ026M SZ026L	400 1000 5000
Cfr9 I	C/CCGGG	SZ027S SZ027M SZ027L	100 300 1500
Dde I	C/TNAG	SZ028S SZ028M SZ028L	200 1000 5000
Dpn I	G(mA)/TC	SZ029S SZ029M SZ029L	200 1000 5000
Dpn II	/GATC	SZ030S SZ030M SZ030L	200 1000 5000
Dra I	TTT/AAA	SZ031S SZ031M SZ031L	400 2000 10000
Ear I	CTCTTC(1/4)	SZS239S SZS239M SZS239L	100 200 1000

Enzyme	Sequence	Cat.No.	Package U/vial
Eco47 I	G/GWCC	SZ032S SZ032M SZ032L	200 800 4000
EcoN I	CCTNN/NNNAGG	SZS099S SZS099M	200 1000
EcoO109 I	RG/GNCCY	SZ033S SZ033M	400 2000
EcoRI	G/AATTC	SZ034S SZ034M SZ034L	5000 20000 100000
EcoR V	GAT/ATC	SZ035S SZ035M SZ035L	800 4000 20000
EcoT38 I	GRGCY/C	SZ036S SZ036M SZ036L	300 900 4500
Fok I	GGATG(9/13)	SZ037S SZ037M SZ037L	200 1000 5000
Fsp I	TGC/GCA	SZ038S SZ038M SZ038L	100 500 2500
Hae II	RGCGC/Y	SZ039S SZ039M SZ039L	400 2000 10000
Hae III	GG/CC	SZ040S SZ040M SZ040L	700 3500 17500
Hga I	GACGC(5/10)	SZ041S SZ041M	50 250
Hinc II	GTY/RAC	SZ042S SZ042M SZ042L	200 1000 5000
Hind III	A/AGCTT	SZ044S SZ044M SZ044L	4000 20000 100000
Hinf I	G/ANTC	SZS096S SZS096M SZS096L	1000 5000 25000

Restriction Enzymes

Order List of Restriction Endonucleases

Enzyme	Sequence	Cat.No.	Package U/vial
HinP1 I	G/CGC	SZ045S SZ045M SZ045L	400 2000 10000
Hpa I	GTT/AAC	SZ046S SZ046M SZ046L	200 500 2500
Hpa II	C/CGG	SZ047S SZ047M SZ047L	400 2000 10000
Hph I	GGTGA(8/7)	SZ048S SZ048M	200 1000
Hpy188 I	TCN/GA	SZ049S SZ049M	200 1000
Hpy99 I	CGWCG/	SZ050S	100
HpyCH4 V	TG/CA	SZ051S	100
Kpn I	GGTAC/C	SZ052S SZ052M SZ052L	900 4500 22500
Mbo I	/GATC	SZ053S SZ053M SZ053L	100 500 2500
Mbo II	GAAGA(8/7)	SZ054S SZ054M SZ054L	100 300 1500
Mlu I	A/CGCGT	SZS097S SZS097M	1000 5000
Mnl I	CCTC(7/6)	SZ055S SZ055M SZ055L	100 500 2500
Mse I	T/TAA	SZ056S SZ056M SZ056L	100 500 2500
Msp I	C/CGG	SZ057S SZ057M SZ057L	1000 5000 25000

Enzyme	Sequence	Cat.No.	Package U/vial
MspA1 I	CMG/CKG	SZ058S SZ058M SZ058L	100 500 2500
Nae I	GCC/GGC	SZ059S SZ059M SZ059L	100 500 2500
Nar I	GG/CGCC	SZS103S SZS103M SZS103L	100 200 1000
Nci I	CC/SGG	SZS108S SZS108M SZS108L	400 2000 10000
Nco I	C/CATGG	SZ060S SZ060M SZ060L	200 1000 5000
Nde I	CA/TATG	SZ061S SZ061M SZ061L	800 4000 20000
NgoM IV	G/CCGGC	SZ062S SZ062M SZ062L	200 1000 5000
Nhe I	G/CTAGC	SZ063S SZ063M SZ063L	200 1000 5000
Nla IV	GGN/NCC	SZ064S SZ064M	200 1000
Not I	GC/GGCCGC	SZ065S SZ065M SZ065L	100 500 2500
Nru I	TCG/CGA	SZ066S SZ066M SZ066L	100 500 2500
Nsi I	ATGCA/T	SZS101S SZS101M SZS101L	200 1000 5000
Nt. BstNB I	GAGTCNNNN/N	SZ067S SZ067M SZ067L	200 1000 5000
Ple I	GAGTC(4/5)	SZ068S SZ068M SZ068L	200 1000 5000

Restriction Enzymes

Order List of Restriction Endonucleases

Enzyme	Sequence	Cat.No.	Package U/vial
PpuM I	RG/GWCCY	SZS255S SZS255M	100 500
PshA I	GACNN/NNGTC	SZS299S SZS299M SZS299L	200 1000 5000
Pst I	CTGCA/G	SZ069S SZ069M SZ069L	2000 10000 50000
Pvu I	CGAT/CG	SZ070S SZ070M SZ070L	100 500 2500
Pvu II	CAG/CTG	SZ071S SZ071M SZ071L	1000 5000 25000
Rsa I	GT/AC	SZ072S SZ072M SZ072L	200 1000 5000
Sac I	GAGCT/C	SZ073S SZ073M SZ073L	400 2000 10000
Sac II	CCGC/GG	SZS100S SZS100M SZS100L	400 1000 5000
Sal I	G/TCGAC	SZ074S SZ074M SZ074L	1000 5000 25000
Sap I	GCTCTTC(1/4)	SZS111S SZS111M	50 250
Sau96 I	G/GNCC	SZ075S SZ075M SZ075L	200 1000 5000
Sca I	AGT/ACT	SZ076S SZ076M SZ076L	200 1000 5000
Sda I	CCTGCA/GG	SZ077S SZ077M	300 1500
SfaN I	GCATC(5/9)	SZS165S SZS165M	100 500
Sfi I	GGCCNNNN/NGGCC	SZ078S SZ078M	700 3500

Enzyme	Sequence	Cat.No.	Package U/vial
SgrA I	CR/CCGGYG	SZ079S SZ079M	200 1000
Sma I	CCC/GGG	SZ080S SZ080M SZ080L	400 2000 10000
SnaB I	TAC/GTA	SZ081S SZ081M SZ081L	100 500 2500
Spe I	A/CTAGT	SZ082S SZ082M SZ082L	100 500 2500
Sph I	GCATG/C	SZ083S SZ083M SZ083L	150 600 3000
Sse9 I	/AATT	SZ084S SZ084M SZ084L	100 500 2500
Ssp I	AAT/ATT	SZ085S SZ085M SZ085L	200 1000 5000
Stu I	AGG/CCT	SZ086S SZ086M	1000 5000
Swa I	ATTT/AAAT	SZ087S SZ087M SZ087L	500 2000 10000
Taq I	T/CGA	SZ088S SZ088M SZ088L	4000 20000 100000
Tsp509 I	/AATT	SZS217S SZS217M SZS217L	200 500 2500
Xba I	T/CTAGA	SZ089S SZ089M SZ089L	600 3000 15000
Xho I	C/TCGAG	SZ090S SZ090M SZ090L	1000 2000 25000
Xma I	C/CCGGG	SZ091S SZ091M SZ091L	100 500 2500

Restriction Enzymes

Order List of Restriction Endonucleases

Enzyme	Sequence	Cat.No.	Package U/vial
FastCut Age I	A/CCGGT	SZ005CS SZ005CM	100 500
FastCut BamH I	G/GATCC	SZ014CS SZ014CM SZ014CL	2000 10000 50000
FastCut EcoR I	G/AATTC	SZ034CS SZ034CM SZ034CL	5000 20000 100000
FastCut EcoR V	GAT/ATC	SZ035CS SZ035CM SZ035CL	800 4000 20000
FastCut Kpn I	GGTAC/C	SZ052CS SZ052CM SZ052CL	900 4500 22500
FastCut Nco I	C/CATGG	SZ060CS SZ060CM SZ060CL	200 1000 5000
FastCut Nhe I	G/CTAGC	SZ063CS SZ063CM SZ063CL	200 1000 5000
FastCut Not I	GC/GGCCGC	SZ065CS SZ065CM SZ065CL	100 500 2500
FastCut Pvu II	CAG/CTG	SZ071CS SZ071CM SZ071CL	1000 5000 25000
FastCut Sac I	GAGCT/C	SZ073CS SZ073CM SZ073CL	400 2000 10000
FastCut Sal I	G/TCGAC	SZ074CS SZ074CM SZ074CL	1000 5000 25000
FastCut Sca I	AGT/ACT	SZ076CS SZ076CM SZ076CL	200 1000 5000
FastCut Sph I	GCATG/C	SZ083CS SZ083CM SZ083CL	150 600 3000
FastCut Ssp I	AAT/ATT	SZ085CS SZ085CM SZ085CL	200 1000 5000

Restriction Enzymes

GM Buffer Activity Chart for Restriction Endonucleases

*NR: Not Recommend

GM Enzyme	Cat.No.	Sequence	GM Buffer	Enzyme activity in % of maximum					Incu. Temp.	Heat inactivation (for 20 min)
				I	II	III	IV	ONE		
Aat II	SZ001	GACGT/C	IV ONE	0	25	25	100	100	37℃	65℃
Acc I	SZ002	GT/MKAC	IV ONE	75	100	100	100	100	37℃	80℃
Acc III	SZ003	T/CCGGA	Acc III	0	25	100	0	NR	65℃	No.
Acc65 I	SZS092	G/GTACC	II	100	100	75	75	NR	37℃	65℃
Acl I	SZS011	AA/CGTT	IV ONE	100	100	50	100	100	37℃	65℃
Afl II	SZ004	C/TTAAG	IV ONE	75	100	75	100	100	37℃	65℃
Age I	SZ005	A/CCGGT	IV ONE	100	50	0	100	100	37℃	65℃
Ahd I	SZS104	GACNNN/NNGTC	I	100	50	10	75-80	NR	37℃	65℃
Alu I	SZS112	AG/CT	II ONE	100	100	75	100	75	37℃	65℃
Alw26 I	SZ006	GTCTC(1/5)	IV ONE	75	100	50	100	100	37℃	65℃
Apa I	SZS093	GGGCC/C	IV ONE	100	25	0	100	100	25℃	65℃
ApaL I	SZ008	G/TGCAC	IV ONE	50	100	50	100	100	37℃	No.
Asc I	SZ009	GG/CGCGCC	IV ONE	0	0	0	100	100	37℃	65℃
Ava I	SZ010	C/YCGRG	IV ONE	25	100	100	100	100	37℃	80℃
Ava II	SZ011	G/GWCC	IV ONE	100	100	50	100	100	37℃	80℃
Avr II	SZ012	C/CTAGG	IV ONE	100	50	50	100	100	37℃	80℃
Bal I	SZ013	TGG/CCA	Bal I	0	75	25	75	NR	37℃	65℃
BamH I	SZ014	G/GATCC	BamH I ONE	75	100	100	100	100	37℃	No.
Bbs I	SZS297	GAAGAC(2/6)	I ONE	100	100	100	100	100	55℃ 37℃	65℃

Restriction Enzymes

GM Buffer Activity Chart for Restriction Endonucleases

*NR: Not Recommend

GM Enzyme	Cat.No.	Sequence	GM Buffer	Enzyme activity in % of maximum					Incu. Temp.	Heat inactivation (for 20 min)
				I	II	III	IV	ONE		
Bcl I	SZ015	T/GATCA	III ONE	50	100	100	75	100	50℃	No.
Bgl I	SZ016	GCCNNNN/NGGC	III ONE	75	75	100	50	100	37℃	65℃
Bgl II	SZ017	A/GATCT	III ONE	10	75	100	10	100	37℃	No.
Bsa I	SZ018	GGTCTC(1/5)	IV ONE	50	100	100	100	100	37℃	65℃
BsaW I	SZ019	GG/CC	IV ONE	50	100	100	100	100	60℃	80℃
BsiW I	SZ020	C/GTACG	III ONE	50	75	100	50	100	55℃	80℃
Bsm B I	SZ021	CGTCTC(1/5)	III ONE	10	50	100	25	100	55℃	80℃
BsmF I	SZS479	GGGAC(10/14)	IV ONE	50	50	50	100	100	37℃	65℃
BsoB I	SZ022	C/YCGRG	IV ONE	10	100	100	100	100	37℃	80℃
BsrF I	SZ023	R/CCGGY	IV ONE	75	100	100	100	100	37℃	No.
BssH II	SZS102	G/CGCGC	II ONE	100	100	50	100	100	50℃	65℃
BstE II	SZS169	G/GTNACC	IV ONE	75	50	50	100	100	37℃	65℃
BstN I	SZS095	CC/WGG	IV ONE	25	100	75	100	100	60℃	No.
BstX I	SZS110	CAANNNNN/NTGG	III	10	100	100	50	NR	37℃	65℃
BstY I	SZ024	R/GATCY	II ONE	50	100	75	100	100	60℃	80℃
BtsC I	SZ025	GGATG(2/0)	IV ONE	75	100	100	100	100	50℃	80℃
Cfr42 I	SZ026	CCGC/GG	I ONE	100	50	25	75	100	37℃	65℃
Cfr9 I	SZ027	C/CCGGG	III ONE	NR	NR	100	NR	100	37℃	65℃

Restriction Enzymes

GM Buffer Activity Chart for Restriction Endonucleases

*NR: Not Recommend

GM Enzyme	Cat.No.	Sequence	GM Buffer	Enzyme activity in % of maximum					Incu. Temp.	Heat inactivation (for 20 min)
				I	II	III	IV	ONE		
Dde I	SZ028	C/TNAG	III ONE	25	50	100	50	100	37℃	65℃
Dpn I	SZ029	G(mA)/TC	IV ONE	75	100	100	100	100	37℃	80℃
Dpn II	SZ030	/GATC	III ONE	25	75	100	75	100	37℃	65℃
Dra I	SZ031	TTT/AAA	IV ONE	75	100	50	100	100	37℃	65℃
Ear I	SZS239	CTCTTC(1/4)	IV ONE	10	50	10	100	50	65℃ 37℃	80℃
Eco47 I	SZ032	G/GWCC	III ONE	100	100	100	100	100	37℃	65℃
EcoN I	SZS099	CCTNN/NNNAGG	II ONE	75	100	75	50	100	65℃	80℃
EcoO109 I	SZ033	RG/GNCCY	IV ONE	50	75	100	100	100	37℃	65℃
EcoRI	SZ034	G/AATTC	EcoR I ONE	50	100	75	100	100	37℃	65℃
EcoR V	SZ035	GAT/ATC	III ONE	0	100	100	50	100	37℃	65℃
EcoT38 I	SZ036	GRGCY/C	IV ONE	75	100	0	100	100	37℃	65℃
Fok I	SZ037	GGATG(9/13)	IV ONE	100	100	10	100	100	37℃	65℃
Fsp I	SZ038	TGC/GCA	IV ONE	75	100	50	100	100	37℃	65℃
Hae II	SZ039	RGCGC/Y	IV ONE	10	100	100	100	100	37℃	80℃
Hae III	SZ040	GG/CC	IV ONE	50	100	75	100	100	37℃	80℃
Hga I	SZ041	GACGC(5/10)	I ONE	100	75	10	100	100	37℃	65℃
Hinc II	SZ042	GTY/RAC	IV ONE	75	50	50	100	100	37℃	65℃
Hind III	SZ044	A/AGCTT	II ONE	25	100	75	100	100	37℃	80℃

Restriction Enzymes

GM Buffer Activity Chart for Restriction Endonucleases

*NR: Not Recommend

GM Enzyme	Cat.No.	Sequence	GM Buffer	Enzyme activity in % of maximum					Incu. Temp.	Heat inactivation (for 20 min)
				I	II	III	IV	ONE		
Hinf I	SZS096	G/ANTC	II	100	100	75	75	NR	37℃	80℃
HinP1 I	SZ045	G/CGC	II ONE	50	100	100	75	100	37℃	65℃
Hpa I	SZ046	GTT/AAC	IV ONE	0	50	25	100	100	37℃	No.
Hpa II	SZ047	C/CGG	IV ONE	100	75	50	100	100	37℃	80℃
Hph I	SZ048	GGTGA(8/7)	IV ONE	100	75	10	100	100	37℃	65℃
Hpy188 I	SZ049	TCN/GA	IV ONE	50	75	50	100	100	37℃	65℃
Hpy99 I	SZ050	CGWCG/	IV ONE	100	25	10	100	100	37℃	65℃
HpyCH4 V	SZ051	TG/CA	IV ONE	75	100	25	100	100	37℃	65℃
Kpn I	SZ052	GGTAC/C	I ONE	100	50	0	100	100	37℃	No.
Mbo I	SZ053	/GATC	III ONE	75	100	100	100	100	37℃	65℃
Mbo II	SZ054	GAAGA(8/7)	II ONE	100	100	50	100	100	37℃	65℃
Mlu I	SZS097	A/CGCGT	III ONE	25	75	100	50	100	37℃	65℃
Mnl I	SZ055	CCTC(7/6)	II ONE	75	100	75	100	100	37℃	65℃
Mse I	SZ056	T/TAA	IV ONE	75	100	100	100	100	37℃	65℃
Msp I	SZ057	C/CGG	IV ONE	75	100	75	100	100	37℃	No.
MspA1 I	SZ058	CMG/CKG	IV ONE	0	100	75	100	100	37℃	65℃
Nae I	SZ059	GCC/GGC	I ONE	100	100	25	100	100	37℃	65℃
Nar I	SZS103	GG/CGCC	IV	25	100	50	100	NR	37℃	60℃
Nci I	SZS108	CC/SGG	II ONE	100	100	25	100	100	37℃	65℃

Restriction Enzymes

GM Buffer Activity Chart for Restriction Endonucleases

*NR: Not Recommend

GM Enzyme	Cat.No.	Sequence	GM Buffer	Enzyme activity in % of maximum					Incu. Temp.	Heat inactivation (for 20 min)
				I	II	III	IV	ONE		
Nco I	SZ060	C/CATGG	III ONE	50	100	100	75	100	37℃	65℃
Nde I	SZ061	CA/TATG	IV ONE	75	100	100	100	100	37℃	65℃
NgoM IV	SZ062	G/CCGGC	IV ONE	25	75	0	100	100	37℃	80℃
Nhe I	SZ063	G/CTAGC	II ONE	100	100	10	100	100	37℃	65℃
Nla IV	SZ064	GGN/NCC	IV ONE	0	10	10	100	100	37℃	65℃
Not I	SZ065	GC/GGCCGC	III ONE	0	50	100	0	100	37℃	65℃
Nru I	SZ066	TCG/CGA	III ONE	0	50	100	75	100	37℃	65℃
Nsi I	SZS101	ATGCA/T	II	100	100	25	100	NR	37℃	65℃
Nt. BstNB I	SZ067	GAGTCNNNN/N	III ONE	0	10	100	0	100	37℃	80℃
Ple I	SZ068	GAGTC(4/5)	IV ONE	75	75	50	100	100	37℃	65℃
PpuM I	SZS255	RG/GWCCY	IV ONE	50	50	50	100	100	37℃	65℃
PshA I	SZS299	GACNN/NNGTC	I ONE	100	100	75	100	100	65℃ 37℃	No.
Pst I	SZ069	CTGCA/G	III ONE	100	100	100	75	100	37℃	80℃
Pvu I	SZ070	CGAT/CG	III ONE	25	75	100	50	100	37℃	No.
Pvu II	SZ071	CAG/CTG	II ONE	75	100	25	10	100	37℃	No.
Rsa I	SZ072	GT/AC	IV ONE	100	100	75	100	100	37℃	65℃
Sac I	SZ073	GAGCT/C	I ONE	100	75	25	75	100	37℃	65℃
Sac II	SZS100	CCGC/GG	IV ONE	75	100	50	100	75	37℃	65℃
Sal I	SZ074	G/TCGAC	III ONE	0	0	100	0	100	37℃	65℃

Restriction Enzymes

GM Buffer Activity Chart for Restriction Endonucleases

*NR: Not Recommend

GM Enzyme	Cat.No.	Sequence	GM Buffer	Enzyme activity in % of maximum					Incu. Temp.	Heat inactivation (for 20 min)
				I	II	III	IV	ONE		
Nco I	SZ060	C/CATGG	III ONE	50	100	100	75	100	37℃	65℃
Nde I	SZ061	CA/TATG	IV ONE	75	100	100	100	100	37℃	65℃
NgoM IV	SZ062	G/CCGGC	IV ONE	25	75	0	100	100	37℃	80℃
Nhe I	SZ063	G/CTAGC	II ONE	100	100	10	100	100	37℃	65℃
Nla IV	SZ064	GGN/NCC	IV ONE	0	10	10	100	100	37℃	65℃
Not I	SZ065	GC/GGCCGC	III ONE	0	50	100	0	100	37℃	65℃
Nru I	SZ066	TCG/CGA	III ONE	0	50	100	75	100	37℃	65℃
Nsi I	SZS101	ATGCA/T	II	100	100	25	100	NR	37℃	65℃
Nt. BstNB I	SZ067	GAGTCNNNN/N	III ONE	0	10	100	0	100	37℃	80℃
Ple I	SZ068	GAGTC(4/5)	IV ONE	75	75	50	100	100	37℃	65℃
PpuM I	SZS255	RG/GWCCY	IV ONE	50	50	50	100	100	37℃	65℃
PshA I	SZS299	GACNN/NNGTC	I ONE	100	100	75	100	100	65℃ 37℃	No.
Pst I	SZ069	CTGCA/G	III ONE	100	100	100	75	100	37℃	80℃
Pvu I	SZ070	CGAT/CG	III ONE	25	75	100	50	100	37℃	No.
Pvu II	SZ071	CAG/CTG	II ONE	75	100	25	10	100	37℃	No.
Rsa I	SZ072	GT/AC	IV ONE	100	100	75	100	100	37℃	65℃
Sac I	SZ073	GAGCT/C	I ONE	100	75	25	75	100	37℃	65℃
Sac II	SZS100	CCGC/GG	IV ONE	75	100	50	100	75	37℃	65℃

Restriction Enzymes

GM Buffer Activity Chart for Restriction Endonucleases

*NR: Not Recommend

GM Enzyme	Cat.No.	Sequence	GM Buffer	Enzyme activity in % of maximum					Incu. Temp.	Heat inactivation (for 20 min)
				I	II	III	IV	ONE		
Sal I	SZ074	G/TCGAC	III ONE	0	0	100	0	100	37℃	65℃
Sau96 I	SZ075	G/GNCC	IV ONE	50	100	100	100	100	37℃	80℃
Sca I	SZ076	AGT/ACT	III ONE	NR	NR	100	NR	100	37℃	80℃
Sda I	SZ077	CCTGCA/GG	IV ONE	75	75	0	100	100	37℃	65℃
SfaN I	SZS165	GCATC(5/9)	II ONE	50	100	100	100	100	37℃	80℃
Sfi I	SZ078	GGCCNNNN/NGGCC	II ONE	25	100	25	100	100	37℃	No.
SgrA I	SZ079	CR/CCGGYG	IV ONE	100	100	0	100	100	37℃	65℃
Sma I	SZ080	CCC/GGG	IV ONE	0	0	0	100	100	25℃	65℃
SnaB I	SZ081	TAC/GTA	IV ONE	100	75	25	100	100	37℃	80℃
Spe I	SZ082	A/CTAGT	IV ONE	50	100	75	100	100	37℃	80℃
Sph I	SZ083	GCATG/C	II ONE	50	100	50	75	100	37℃	65℃
Sse9 I	SZ084	/AATT	I ONE	100	50	50	75	100	55℃	65℃
Ssp I	SZ085	AAT/ATT	IV ONE	50	100	25	100	100	37℃	65℃
Stu I	SZ086	AGG/CCT	IV ONE	75	100	75	100	100	37℃	65℃
Swa I	SZ087	ATTT/AAAT	III ONE	75	75	100	25	100	25℃	65℃
Taq I	SZ088	T/CGA	III ONE	50	100	100	100	100	65℃ 37℃	80℃
Tsp509 I	SZS217	/AATT	IV ONE	75	75	75	100	100	55℃ 37℃	65℃

Restriction Enzymes

GM Buffer Activity Chart for Restriction Endonucleases

*NR: Not Recommend

GM Enzyme	Cat.No.	Sequence	GM Buffer	Enzyme activity in % of maximum					Incu. Temp.	Heat inactivation (for 20 min)
				I	II	III	IV	ONE		
Xba I	SZ089	T/CTAGA	IV ONE	0	100	100	100	100	37℃	65℃
Xho I	SZ090	C/TCGAG	IV ONE	50	100	100	100	100	37℃	80℃
Xma I	SZ091	C/CCGGG	IV ONE	50	75	25	100	100	37℃	65℃

GM Enzyme	Cat.No.	Sequence	GM Buffer	Enzyme activity in % of maximum					Incu. Temp.	Heat inactivation (for 20 min)
				I	II	III	IV	ONE		
FastCut Age I	SZ005C	A/CCGGT	IV ONE	100	50	10	100	100	37℃	65℃
FastCut BamH I	SZ014C	G/GATCC	IV ONE	100	50	10	100	100	37℃	No.
FastCut EcoR I	SZ034C	G/AATTC	IV ONE	10	100	10	100	100	37℃	65℃
FastCut EcoR V	SZ035C	GAT/ATC	IV ONE	25	100	100	100	100	37℃	65℃
FastCut Kpn I	SZ052C	GGTAC/C	IV ONE	100	25	10	100	100	37℃	No.
FastCut Nco I	SZ060C	C/CATGG	IV ONE	50	100	10	100	100	37℃	80℃
FastCut Nhe I	SZ063C	G/CTAGC	IV	100	25	10	100	NR	37℃	65℃
FastCut Not I	SZ065C	GC/GGCCGC	IV ONE	50	100	100	100	100	37℃	65℃
FastCut Pvu II	SZ071C	CAG/CTG	IV ONE	10	10	10	100	100	37℃	No.
FastCut Sac I	SZ073C	GAGCT/C	IV ONE	75	50	10	100	100	37℃	65℃
FastCut Sal I	SZ074C	G/TCGAC	IV ONE	10	100	100	100	100	37℃	65℃

Restriction Enzymes

GM Buffer Activity Chart for Restriction Endonucleases

*NR: Not Recommend

GM Enzyme	Cat.No.	Sequence	GM Buffer	Enzyme activity in % of maximum					Incu. Temp.	Heat inactivation (for 20 min)
				I	II	III	IV	ONE		
FastCut Sca I	SZ076C	AGT/ACT	IV ONE	100	100	10	100	100	37℃	80℃
FastCut Sph I	SZ083C	GCATG/C	IV ONE	50	25	10	100	100	37℃	65℃
FastCut Ssp I	SZ085C	AAT/ATT	IV ONE	25	100	10	100	100	37℃	65℃

Compositions of GM-Buffer (1X)

GM-Buffer I : 10 mM Bis Tris propane-HCl (pH 7.0, at 25˚C), 10 mM $MgCl_2$, 100 µg/ml BSA
GM-Buffer II : 10 mM Tris-HCl (pH 7.9, at 25˚C), 50 mM NaCl, 10 mM $MgCl_2$, 100 µg/ml BSA
GM-Buffer III : 50 mM Tris-HCl (pH 7.9, at 25˚C),100 mM NaCl, 10 mM $MgCl_2$, 100 µg/ml BSA
GM-Buffer IV : 20 mM Tris-acetate (pH 7.9, at 25˚C),50 mM potassium acetate, 10 mM magnesium acetate, 100 µg/ml BSA
GM-buffer Acc III : 10 mM Tris-HCl (pH 8.5, at 25˚C), 100 mM NaCl, 10 mM $MgCl_2$, 100 µg/ml BSA
GM-buffer Bal I : 50 mM Tris-HCl (pH 8.2, at 25˚C), 5 mM $MgCl_2$
GM-buffer BamH I : 10 mM Tris-HCl (pH 7.9, at 25˚C), 150 mM NaCl, 10 mM $MgCl_2$, 100 µg/ml BSA
GM-buffer EcoR I : 10 mM Tris-HCl (pH 7.5, at 25˚C), 50 mM NaCl, 10 mM $MgCl_2$, 0.025% Triton X-100

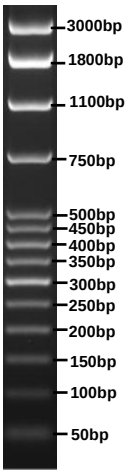
Double Digestion

Cleavage of a DNA substrate with two restriction endonucleases simultaneously (double digestion) is a common and time-saving procedure. It is important to select the most suitable GM buffer for both restriction endonucleases. Over 95% of restriction enzymes are 100% active in **GM-Buffer One**, making double digestion simple. If using an enzyme that is not supplied with GM-Buffer One, please see **GM Buffer Activity Chart for Restriction Endonucleases** to choose a buffer that results in the most activity for both enzymes.

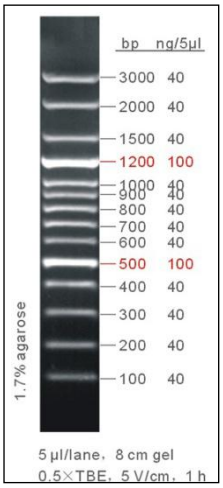
Molecular Size Markers

DNA Markers and Protein Markers

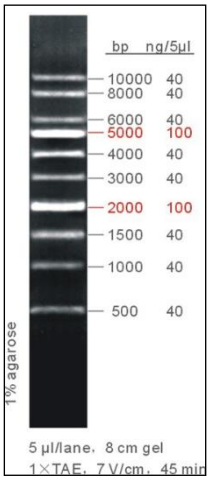
GM50P



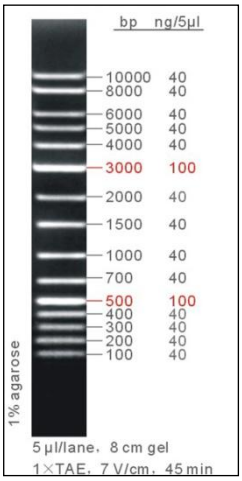
GMM100



GM1000



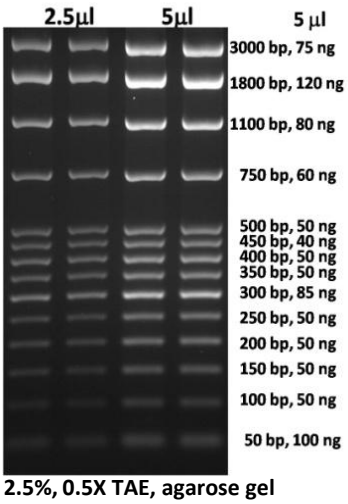
GM1000P



Ordering Info

Product Name	Cat. No.	Scale	Size
Gen50 bp DNA Ladder, 50 ug	**GM50**	50~700 bp	500 μl/vial
Gen50 bp Plus DNA Ladder, 50 ug	**GM50P**	50~3000 bp	500 μl/vial
100 bp DNA Ladder Marker, (100bp~1500bp)	**GMM100S**	100~1500 bp	500 μl/vial
100 bp DNA Ladder Marker, 68ug (100bp~3000bp)	**GMM100**	100~3000 bp	500 μl/vial
100 bp DNA Ladder Plus Marker, (100bp~5000bp)	**GMM100P**	100~5000 bp	500 μl/vial
1 kb DNA Ladder, (1.0 kb~10kb)	**GMM1000S**	1kb~10kb	500 μl/vial
1 kb DNA Ladder, 52 ug (0.5kb~10kb)	**GMM1000**	0.5~10 kb	500 μl/vial
1 kb (+) DNA Ladder Marker, (100bp~10kb)	**GMM1000PS**	100 bp~10 kb	500 μl/vial
1 kb (+) DNA Ladder Marker, 72ug (100bp~10kb)	**GMM1000P**	100 bp~10 kb	500 μl/vial
50 KB LC DNA Ladder, 50 ug	**M50K-50**	1.5 kb~50 kb	500 μl/vial
GenColor Prestained Protein Marker, 10-170 kd	**GMP0671**	10~180 kDa	500 μl/vial
SAMview Prestained Protein Marker, 5-245 kd	**GMP5245**	5~245 kDa	2 x 250 μl

DNA Markers



2.5%, 0.5X TAE, agarose gel

Gen50 Plus DNA Ladder

Description

Gen50 Plus DNA Ladder consists **14** liner double stranded DNA bands of 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 750, 1100, 1800 and 3000 base pairs.
This Gen50 Plus DNA ladder is specially prepared for visualizing DNA fragments on the gel. The intensity of 300 bp band has been increased to yield reference indicator.

Recommended loading: 2.5~5 µl.

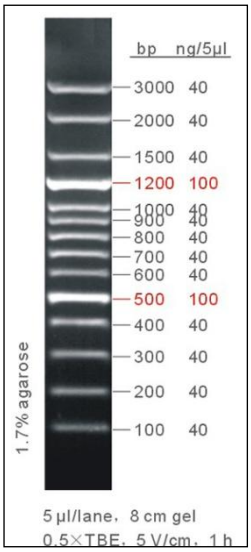
Cat.No.	SIZE
GM50P	**50ug**/500 µl

100 bp DNA Ladder Marker

Description

100 bp DNA Ladder Marker consists the following **14** DNA fragments: 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1500, 2000, 3000 base pairs. The intensity of the 500 bp and 1200 bp bands have been increased to yield an internal reference indicator.

Recommended loading: 5~10 µl.



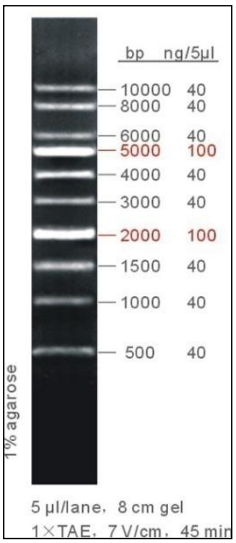
Cat.No.	SIZE
GMM100	**68ug**/500 µl

1 kb DNA Ladder Marker

Description

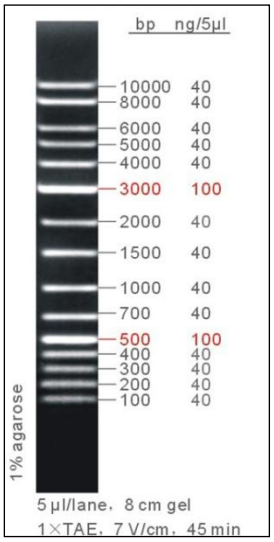
1 kb DNA Ladder Marker contains the following 10 DNA fragments: 500, 1000, 1500, 2000, 3000, 4000, 5000, 6000, 8000 and 10000 base pairs. The intensity of the 2000 bp and 5000 bp bands have been increased to yield an internal reference indicator.

Recommended loading: 5~10 µl.



Cat.No.	SIZE
GMM002	**52ug**/500 µl

DNA Markers



1 kb (+) DNA Ladder Marker

Description

1 kb (+) DNA Ladder Marker consists the following **15** DNA fragments: 100 bp, 200 bp, 300 bp, 400 bp, 500 bp, 700 bp, 1000 bp, 1500 bp, 2000 bp, 3000 bp, 4000 bp, 5000 bp, 6000 bp, 8000 bp and 10000 bp. The intensity of the 500 bp and 3000 bp bands have been increased to yield an internal reference indicator.

Recommended loading: 5~10 μl.

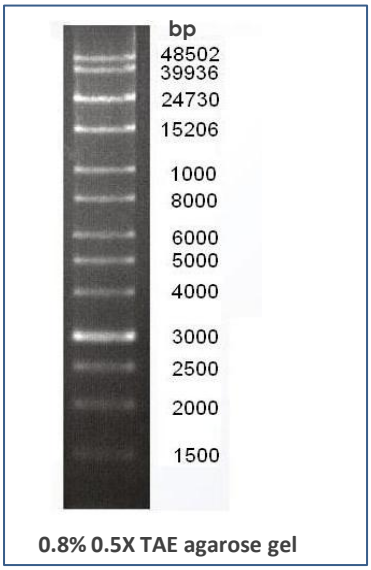
Cat.No.	SIZE
GMM003	**72ug**/500 μl

50 KB LC DNA Ladder

Description

The 50 KB LC DNA Ladder has a number of proprietary plasmids and phages DNA which are digested to completion with appropriate restriction enzymes to yield 13 bands suitable for use as molecular weight standards for agarose pulsed-field gel electrophoresis(PFGE).

Recommended loading: 1~5 μl.



0.8% 0.5X TAE agarose gel

Cat.No.	SIZE
M50K-50	**250 μl**/vial

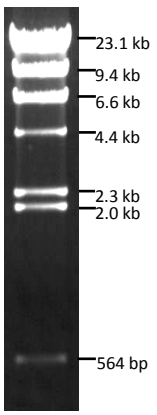
λ/Hind III DNA Marker

Description

Lambda DNA Ladder is completely digested by *Hind* III, phenol extracted, ethanol precipitated and dissolved in 10 mM Tris-HCl (pH7.6) and 1 mM EDTA. *Hind* III digest of λDNA yields 7 DNA fragments: 564, 2027, 2322, 4361*, 6557, 9416 and 23130*.

- Before loading, heat the marker at 65°C for 5 minutes then cooling on ice, or 4.4 kb may anneal to 23.1 kb.

Recommended loading: 2~5 μl.



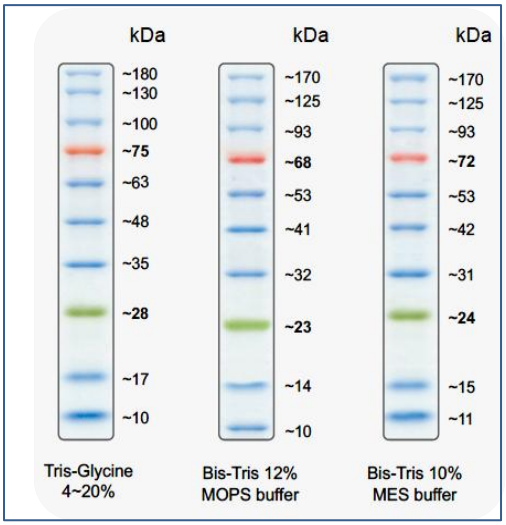
0.7%, 0.5X TAE agarose gel

Cat.No.	SIZE
LH01	1 ml/vial

Protein Markers

GenColor Prestained Protein Marker

Cat.No.	SIZE
GMP0671	2 x 250 µl



Description

The GenColor Prestained Protein Marker is designed for visualization of protein molecular weight during SDS-PAGE electrophoresis, and verification of Western transfer efficiency. The GenColor Prestained Protein Marker consists 10 pre-stained proteins covering the range from 10~180 kDa. Proteins are covalently coupled to a blue dye, except the fourth protein band from the top, which is coupled to a green dye, and eighth protein band from the top, which is coupled to a red dye.

Recommended loading: 5 µl or apply more for thicker and larger gels.

SAMview Prestained Protein Ladder Marker

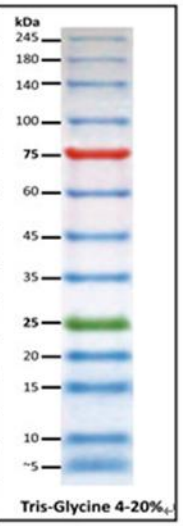
Cat.No.	SIZE
GMP5245	2 x 250 µl

Description

The SAMview Prestained Protein Ladder Marker is a ready-to-use three-color protein standard with 13 prestained proteins covering the range from 5 to 245 kDa. Proteins are covalently coupled with different chromophores for easy identification of bands, with two reference proteins carrying enhanced intensity corresponding to a green at 25 kDa and a red at 75 kDa.

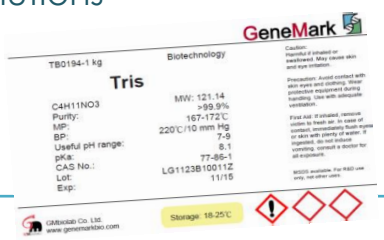
Recommended loading: 3~5 µl.

Color	TRIS-GLYCINE	BIS-TRIS (MOPS)	BIS-TRIS (MES)
Blue	245	235	235
Blue	180	170	170
Blue	140	130	130
Blue	100	93	93
Red	75	70	72
Blue	60	53	53
Blue	45	41	42
Blue	35	30	30
Green	25	22	23
Blue	20	18	18
Blue	15	14	14
Blue	10	9	10
Blue	~5	3.5	3.5



Biochemicals & Solutions

Biochemicals	Tris, Glycine, BSA, MOPS, DTT, IPTG, NBT, BCIP, X-Gal, X-Gluc……
Nucleic acid related & stain solutions	6X DNA Loading Dye 5X TBE Buffer 10X TE Buffer 10X TEN Buffer Glycogen Solution 10M Ammonium acetate 3M Sodium acetate Ethidium Bromide Solution SAMview DNA Fluorescent staining Dye 50X TAE Buffer 20X SSC Buffer 20X SSPE Buffer Denhardt's Solution Salmon Sperm DNA Solution 5M Potassium acetate Lysis Solution (NaOH/SDS) SafeView DNA stain
RNA related solutions	RNase DNase Away Solution RNase A stock (DNase-free) RNA-SafeGuard Reagent (20X) RNAfter™ DEPC treated Water Random Primer Oligo dT Primer 10X MOPS Buffer (for RNA)
Protein related & stain solutions	5X Protein Loading Buffer 10X TGS Buffer 10X TBST Buffer BSA Standard 4X Stacking Buffer 10X Transfer Buffer 20X MOPS-SDS running buffer InstantBlue Gel Staining Reagent 10X TG Buffer 10X TBS Buffer TMB Solution 4X Resolving Buffer Blocking Buffer Stripping Buffer Tris Buffer
dNTP solutions	2.5 mM, 10 mM, 100 mM dNTP Solutions
Antibiotic solutions	Ampicillin, Chloramphenicol, G418, Getamicin, Hygromycin B, Kanamycin, Neomycin, Penicillin-G, Rifampicin, Spectinomycin……
Competent cells	DH5a, BL21 (DE3), XL-1 Blue, JM109
Other solutions	10X PBS Buffer 20% Glucose 0.5M EDTA 2X HBS Buffer 1M HEPES 3M KCl Lysozyme 1M Magnesium Chloride NaOH Solution S.O.C medium 10X Universal KGB Buffer 1M HCl 1M Calcium Chloride 1M DTT 2% Gelatin HBSS Buffer 1M IPTG 7.5M LiCl 20% Maltose 1M Magnesium Sulfate 5M NaCl 1M Spermidine X-gal 10% SDS



Biochemicals

ACES {N-[(2-Amino-2-oxoethyl)amino]ethanesulfonic acid} **High Purity grade**

Cat. No.	Size
GMSH001-0100	100 g
GMSH001-0500	500 g

$C_4H_{10}N_2O_4S$ MW 182.2 Cas # 7365-82-4 Assay: 99.0%

pH (1% water solution 25℃): 3.6-4.4 Heavy Metals (Pb): ≤ 3 ppm

UV absorbance (260 nm; 280 nm): ≤ 0.007; ≤ 0.004 Abs unit

Solubility: Clear, colorless solution White crystalline powder.

BCIP **Ultra Pure grade**
(5-Bromo-4-chloro-3-indolyl-phosphate, p-toluidine salt)

Cat. No.	Size
GMSJ003-0100	100 mg
GMSJ003-0500	500 mg
GMSJ003-1000	1 g
GMSJ003-5000	5 g

$C_8H_6BrClNO_4PC_7H_9N$ MW 433.6 Cas # 6578-06-9 Assay: 98%

Heavy metals: ≤ 5 ppm Water: ≤ 0.5% White powder.

BICINE [N,N-Bis(2-hrdroxyethyl)glycine] **High Purity grade**

Cat. No.	Size
GMSH004-0500	500 g
GMSH004-1000	1 kg

$C_6H_{13}NO_4$ MW 163.0953 Cas # 150-25-4 Assay: 99.0%

Loss on drying(105℃, 3 hours): ≤ 0.5% Heavy metals (Pb): ≤ 5 ppm

pH (1M solution in H2O ,20℃): 4.0-6.0

UV absorbance(260 nm; 280 nm): ≤ 0.07; ≤ 0.07 Abs unit White crystal.

Bovine Serum Albumin (BSA), pH6.5~7.5 **Biotech grade**

Cat. No.	Size
GMSQ003-0025	25 g
GMSQ003-0100	100 g

MW ~66 kDa Cas # 9048-46-8 Assay: 98.0% ASH: ≤ 1.5%

Fatty acid: ≤ 0.24 mg/g pH: 6.5~7.5 Heavy metals: ≤ 10 ppm

CHAPS **Ultra Pure grade**
{3-[(3-Cholamidopropyl)dimethylammonio]-1-propanesulfonate}

Cat. No.	Size
GMSH009-0005	5 g
GMSH009-0025	25 g
GMSH009-0100	100 g

$C_{32}H_{58}N_2O_7S$ MW 614.88 Cas # 75621-03-3 Assay: 98%

Moisture: 2.0% Nitrogen (Kjeldahl): 4.46~4.65%

Conductivity (0.1 M in H_2O): 5 μs/cm White powder. Soluble in water

DTT (1,4-Dithioerythritol) **Ultra Pure grade**

Cat. No.	Size
GMSJ009-0005	5 g
GMSJ009-0005	25 g

$C_4H_{10}O_2S_2$ MW 154.2 Cas # 3483-12-3 Assay: 98.00%

Clarity (5%(w/v)solution in water) : Clear and Colorless

5% solution at pH4.5 : Clear and Colorless

Oxidized DTT level : 0.5% White to off-white free flowing powder. Hygroscopic.

Biochemicals

Glycine — Biotech grade

Cat. No.	Size
GMPT008-1000	1 kg
GMPT008-5000	5 kg

$C_2H_5NO_2$ | MW 75.07 | Cas # 56-40-6 | Assay: 99.5%

Loss on drying: 0.08% | Chloride: 0.006% | Sulfate: 0.0055% | Arsenic(AS)PPM: 2%

Residue on ignition: 0.04% | Heavy Metals: 0.002%

Hydrolyzable substances: Approved | White crystalline free flowing powder.

Guanidine hydrochloride — Biotech grade

Cat. No.	Size
GMPZ007-0500	500 g
GMPZ007-1000	1 kg

CH_5N_3HCl | MW 95.53 | Cas # 50-01-1 | Assay: 99.5%

Loss on drying: ≤ 0.3% | Melting point: 183-188℃ | pH: 6.2-6.6

White crystalline powder.

Guanidine Thiocyanate — Biotech grade

Cat. No.	Size
GMPZ009-0500	500 g
GMPZ009-1000	1 kg

CH_5N_3CHNS | MW 118.16 | Cas # 593-84-0 | Assay: 99.0%

Loss on drying: ≤ 0.5% | Melting point: 115-121℃ | Water-Insoluble matter: ≤ 0.1%

Aspect of 35% aqueous solution: Pass test | White crystalline powder.

HEPES [4-(2-Hydroxyethyl) piperazine-1-ethanesulfonic acid] — High Purity grade

Cat. No.	Size
GMSH0011-0500	500 g

$C_8H_{18}N_2O_4S$ | MW 238.31 | Cas # 7365-45-9 | Assay: 99.5%

PKa at 20℃: 7.4-7.7 | Residue on Ignition: ≤ 0.1% | Sulfate: ≤ 0.05%

Loss on drying (105℃, 3 hours): ≤ 1% | Heavy metals(Pb): ≤ 5 ppm

UV absorbance (260 nm; 280 nm; 440 nm): ≤ 0.5 Abs unit; ≤ 0.5 Abs unit; ≤ 0.2 Abs unit

Color (1 M solution): Pass test | Free flowing white powder.

Imidazole — Reagent grade

Cat. No.	Size
GMPT001-0500	500 g

$C_3H_4N_2$ | MW 68.08 | Cas # 288-32-4 | Assay(HPLC): 99.0%

Loss on drying: ≤ 0.5% | Melting Point: 88-91℃ | White crystalline powder.

IPTG (Isopropyl-β-D-1-thiogalactopyranoside) Dioxane Free — Ultra Pure grade

Cat. No.	Size
GMSJ0012-0005	5g
GMSJ0012-0010	10 g
GMSJ0012-0100	100 g

$C_9H_{18}O_5S$ | MW 238.30 | Cas # 367-93-1 | Purity(HPLC): 98%

pH 5% in water: 5.0-7.0 | Melting range: 110~114℃ | Moisture content by KF: 1.0 w/w

White crystalline powder. Soluble in water and methanol.

Biochemicals

MES (2-Morpholinoethanesulfonic acid) **High Purity grade**

Cat. No.	Size
GMSH0013-0100	100 g
GMSH0013-0500	500 g

$C_6H_{13}NO_4S$ MW 195.2 Cas # 4432-31-9 Assay: 99%

PKa at 20℃: 6.05-6.25 Heavy metals (Pb): ≤ 10 ppm Sulfate: ≤ 100 ppm

Fe: ≤ 10 ppm Chloride: ≤ 100 ppm Color of 1 M solution: Clear

Free flowing white powder.

MOPS (3-Morpholinopropanesulfonic acid) **High Purity grade**

Cat. No.	Size
GMSH0016-0500	500 g

$C_7H_{15}NO_4S$ MW 209.3 Cas # 1132-61-2 Assay: 99%

PKa at 20℃: 7.08-7.28 Heavy metals (Pb): ≤ 5 ppm Heavy metals (Fe): ≤ 5 ppm

Loss on drying(105℃, 3 hours): ≤ 0.18% pH(1% solution at 25℃): 2.5-4.5

Free flowing white powder.

NBT (Nitro Blue Tetrazolium Chloride) **High Purity grade**

Cat. No.	Size
GMSJ0015-0500	500mg
GMSJ0015-1000	1 g
GMSJ0015-5000	5 g

$C_{40}H_{30}N_{10}O_6Cl_2$ MW 817.6 Cas # 298-83-9 Assay: 98.0%

Heavy metals: ≤ 5 ppm Water content: ≤ 0.5% Yellow powder.

PIPES, free acid (Piperazine-1, 4-bisethanesulfonic acid) **High Purity grade**

Cat. No.	Size
GMSH0020-0500	500 g

$C_8H_{18}N_2O_6S_2$ MW 302.4 Cas # 5625-37-6 Assay: 99.5%

PKa at 20℃: 6.77 Heavy metals (Pb): 3 ppm Insoluble matter: 0.03%

Residue after ignition: 0.09% Free flowing white powder.

PNPP, 4-Nitrophenylphosphate, disodium salt, hexahydrate **Reagent grade**

Cat. No.	Size
GMSJ0017-0005	5 g
GMSJ0017-0025	25 g

$C_6H_4NNa_2O_6P \cdot 6H_2O$ MW 371.14 Cas # 4264-83-9 Purity (Tit): 100.2%

Purity (enzyme; ALP): 95.4% Serum activity: 100.5%

Slightly yellow white powder. Keep tightly closed. Store in dry place.

TRICINE [N-Tris (hydroxymethyl) methylglycine] **High Purity grade**

Cat. No.	Size
GMSH0025-0500	500 g

$C_6H_{13}NO_5$ MW 179.2 Cas # 5704-04-1 Assay: 100.1%

Solubility (1 mol/L): Clear Pb: 3 ppm pH (1 M solution in water, 20℃): 7.4-8.8

Loss on drying (105℃, 3 hours): 0.12%

White crystalline powder. Soluble in water. Suitable for cell culture.

Biochemicals

TRIS [Tris (hydroxymethyl)aminomethane] **Biotech grade**

$C_4H_{11}NO_3$	MW 121.14	Cas # 77-86-1	Assay: 99.9%
pH (1.0% in water,25℃): 10.0-10.8		ASH: ≤ 0.05%	MP: 168-171℃
Heavy metals: ≤ 5 ppm	Insolubles: ≤ 0.03%	Cl: ≤ 3 ppm	Fe: ≤ 2 ppm
UV absorbance (260 nm): ≤ 0.1		White crystalline powder.	

Cat. No.	Size
GMSH0026-1000	1 kg
GMSH0026-5000	5 kg

TRIS-Acetate [Tris (hydroxymethyl) aminomethane acetate] **Ultra Pure grade**

$C_4H_{11}NO_3 \cdot C_2H_4O_2$	MW 181.18	Cas # 6850-28-8	Assay 99.0%
Water Content: ≤ 1%	pH (1.0% aqueous/25℃): 6.1-6.7		
Solubility (1% aqueous): Clear, colorless solution		White crystalline powder	

Cat. No.	Size
GMSH0027-0500	500 g

TRIS-HCL [Tris(hydroxymethyl)aminomethane hydrochloride] **Biotech grade**

$C_4H_{11}NO_3 \cdot HCl$	MW 157.60	Cas # 1185-53-1	Assay: 100%
Residue on ignition: 0.02%	MP: 152℃	pH (1.0 mol/L): 4.5	Pb: 3 ppm
pKa(20℃): 8.28	Moisture: 0.12%	Iron: 0.7 ppm	
Loss on drying (105℃, 3 hours): 0.14%		White crystalline powder	

Cat. No.	Size
GMSH0028-0500	500 g
GMSH0028-1000	1 kg

X-Gal (5-Bromo-4-chloro-3-indolyl-beta-D-galactospyranoside) **Ultra Pure grade**

$C_{14}H_{15}BrClNO_6$	MW 408.63	Cas # 7240-90-6	Assay: 98%
Moisture content: ≤ 1%	Purity: 99%	Specific optical rotation: -63.0° to -60.0°	

Solubility (5% w/v in DMF) : Soluble in Dimethylformamide

Thin Layer chromatograph: Single spot

The IR spectrum of sample is concordant with that of working standard.

White to off-white crystalline powder. Clear, colorless to light yellow solution.

Cat. No.	Size
GMSJ0025-1000	1 g
GMSJ0025-5000	5 g

X-GLUC **Ultra Pure grade**
(5-Bromo-4-chloro-3-indolyl-beta-D-glucuronide cyclohexylammonium salt)

$C_{14}H_{13}BrClNO_7 \cdot C_6H_{13}N$	MW 521.79	Cas # 114162-64-0	Purity: 99%
Water Content: ≤ 0.5%	1H-NMR: Pass	Optical rotation: -88.6	
Methanol: 4.0% w/w	Solubility: Clear, colorless (sol 2% DMF)	White powder	

Cat. No.	Size
GMSJ0028-0100	100 mg
GMSJ0028-0500	500 mg
GMSJ0028-1000	1 g

Nucleic acid related & stain solutions

Product Name	Description	Product composition	Ordering Info
6X DNA Loading Dye	6X DNA Loading Dye is used for loading DNA marker and samples on agarose or polyacrylamide gels. It contains bromophenol blue and xylene cyanol FF. Add it directly to DNA sample in 1X final concentration, and then load to the gel.	150mM EDTA, 30% Glycerol, 0.1% Bromophenol blue, 0.1% Xylene cyanol FF	DL02-1, (1 ml) DL02-100, (100 ml)
50X TAE Buffer (Sterile)	TAE Buffer is the most commonly used electrophoresis buffer for agarose gels. It has a lower buffer capacity than TBE, but double-stranded linear DNA migrates 10% faster with the same resolution through TAE-containing agarose gels. The working concentration is 1X or 0.5X TAE at room temperature.	2 M Tris-acetate, 50 mM EDTA-Na_2, 1M Glacial acetic acid, pH 8.3 ± 0.2	GB01-1, (1L) GB01-4, (4 x 1 L)
5X TBE Buffer (Sterile)	TBE Buffer is the electrophoresis buffer for polyacrylamide and agarose gels. TBE has a higher buffering capacity than TAE. It is usually applied in a concentration of 1X for polyacrylamide gels and 0.5X for agarose gels and "band shifts" (gel mobility shift assay).	0.445 M Tris, 0.01 M EDTA-Na_2, 0.445 M Boric acid, pH 8.3 ± 0.2	GB02-1, (1L) GB02-4, (4 x 1 L)
20X SSC Buffer (Sterile)	SSC Buffer can be used in nucleic acid hybridization techniques and for detection of specific sequences of DNA-fragments after gel electrophoresis.	3 M Sodium chloride, 0.3 M Tri-Sodium citrate, pH 7.0 ± 0.05	GB03-1, (1L) GB03-4, (4 x 1 L)
10X TE Buffer (Sterile)	TE Buffer is the standard buffer solution for dissolving and storage of plasmid DNA or oligonucleotides, because nucleic acids are largely protected from degradation.	0.1 M Tris, 10mM EDTA-Na.H_2O, pH 8.0 ± 0.05	GB06-1, (1L)
20X SSPE Buffer (Sterile)	Detection of specific sequences of DNA fragments after gel electrophoresis.	3 M Sodium chloride, 0.2 M $NaH_2PO_4.H_2O$, 0.02 M EDTA-Na.H_2O, pH 7.4 ± 0.05	GB09-1, (1L) GB09-4, (4 x 1 L)
10X TEN Buffer (Sterile)	TEN Buffer can be used as lysis buffer for eukaryotic cells, especially in the alkaline lysis protocol for the M13 isolation.	0.4 M Tris, 10 mM EDTA-Na.H_2O, 1.5 M Sodium chloride, pH 7.4 ± 0.05	GB10-1, (1L)

Nucleic acid related & stain solutions

Product Name	Description	Product composition	Ordering Info
Denhardt's Solution	Denhardt's Solution is a blocking reagent for preventing nonspecific binding of nucleic acids to nitrocellulose or nylon membranes in hybridization experiments.	2% Polyvinylpyrolidone, 2% BSA fraction V in water	GM006-10, (10 ml) GM006-50, (50 ml)
Glycogen Solution	Glycogen is an inert carrier used to increase the recovery of nucleic acids by alcohol precipitation and form a visible pellet during centrifugation. It is ideal for efficient recovery of oligo nucleotides and DNA/RNA from dilute solutions. Since glycogen is not a nucleic acid, it does not affect determination of DNA/RNA concentration.	Concentration: 20 mg/ml	GM14, (8 x 0.5 ml)
Salmon Sperm DNA Solution	Salmon Sperm DNA Solution is used as a blocking agent to prevent unspecific binding of probes to the membrane in Southern and Northern hybridization. Salmon sperm DNA is sonified (fragments of 500~1000 bp) and extracted with phenol chloroform. This DNA solution is used in a final concentration of 100 µg/ml.	Concentration: 10 mg/ml	SS01, (8 x 1 ml)
10M Ammonium acetate (Sterile)	Ammonium acetate is commonly used in the precipitation of nucleic acids. The presence of 2.5 M NH_4OAc in the precipitation reaction allows ionically bond contaminants to dissociate from the nucleic acids, allowing pure sample to be recovered.	10 M Ammonium acetate	GB11, (100 ml)
5M Potassium acetate (Sterile)	Potassium acetate solution may be used for precipitant solution in procedures and in various DNA extraction protocols.	5 M Potassium acetate	GB36, (500 ml) GB36-1, (1000 ml)
3M Sodium acetate (Sterile)	Sodium acetate can be used for nucleic acids precipitation.	3 M Sodium acetate, pH 5.2 ± 0.05	GB48, (500 ml) GB48-1, (1000 ml)
Lysis Solution (NaOH/SDS)	Lysis Solution is used for lysis of cells with alkali and for extraction of plasmid. SDS pops holes in the cell membrane. NaOH loosens the cell walls and releases the plasmid DNA, and sheared cellular DNA.	0.2 N NaOH, 1% SDS	GB27, (500 ml)

Nucleic acid related & stain solutions

Nucleic acid Stain

Product Name	Description	Ordering Info
Ethidium Bromide Solution (10 mg/ml)	Ethidium bromide is the most commonly used dye for staining DNA during or after polyacrylamide or agarose gel electrophoresis. It has UV absorbance maxima at 300 and 360 nm, and an emission maximum at 590 nm.	GD0197, (10 ml)
SafeView DNA Stain	SafeView DNA Stain is a new and safe nucleic acid stain for detection of double-stranded DNA, single-stranded DNA and RNA in agarose gels. This dye replaces ethidium bromide for visualization of DNA or RNA in agarose gel. SafeView is non-carcinogenic, is as sensitive as ethidium bromide (EB) and is used the same way as EB in agarose gel electrophoresis. SafeView emits green fluorescence when bound to DNA. It has two excitation maxima at 290 and 490 nm. The emission wavelength is 530 nm. * Please use 535 nm emission filter.	C118-1, (1 ml) C118-5, (5 ml)
SAMView DNA Fluorescent staining Dye (10000 X)	SAMView DNA Fluorescent staining Dye is designed to be a safer replacement for conventional EtBr. It offers a safer alternative to EtBr as well as at least 10 times sensitivity in DNA detection level, capable of detecting double stranded DNA fragments up to 0.1 ng in electrophoresis analysis. SAMView DNA Fluorescent staining Dye emission when bound to dsDNA is 522 nm, while its excitation peaks are at 270, 370 and 497 nm.	GSV-1000, (500 µl)

RNA related solutions

Product Name	Description	Ordering Info
RNase DNase Away Solution	RNase DNase Away Solution efficiently removes surface-contaminant from glass wares and plastic wares without having a residual effect on subsequent DNA and RNA samples. It provides more effective at degrading RNA and DNA than autoclave and was proven to be ideal for cleaning benchtops and lab wares that cannot be autoclaved. Simply apply RNase DNase Away Solution to the surfaces or lab wares to decontaminate and rinse clear.	GD0339-100, (100 ml) GD0339-500, (500 ml)
RNase A stock (DNase-free)	RNase A is an endoribonuclease that attacks at the 3'-phosphate of a pyrimidine nucleotide. The highest activity is exhibited with single-stranded RNA. RNase A is a single chain polypeptide containing 4 disulfide bridges. RNase A is used for the purification of RNase-free DNA, for the removal of non-hybridized regions of RNA:DNA-hybrids or as a molecular weight marker.	RA01, (4 mg/ml, 4 x 1 ml) RA02, (10 mg/ml, 4 x 1 ml)
RNA- SafeGuard Reagent (20X)	RNA-SafeGuard Reagent is a mixture of non-toxic reagents for storage and decontamination of RNase for purified RNA. RNA stored in this reagent can be used in many enzymatic reactions, including cDNA synthesis, RT-PCR and *in vitro* transcription. RNA-SafeGuard Reagent can also be used for preparation of molecular buffer instead of DEPC, or used for buffer incompatible with DEPC, or solutions that cannot be autoclaved.	RG-1, (1 ml) RG-10, (10 ml)

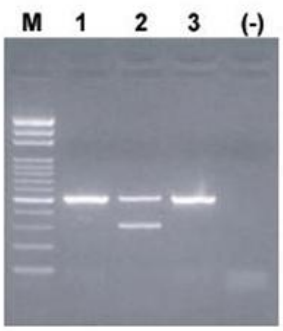
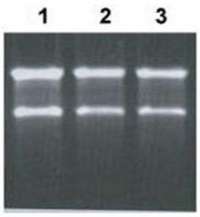


Figure 1. RT-PCR of rat beta-actin from RNA stored in different solutions. Total RNA was isolated from rat spleen, and RNA was resuspended in RNase-free water. One third of RNA treated with 1X RNASecure, one third of RNA treated with 1X RNA-SafeGuard. RT-PCR was performed using One-Step RT-PCR kit (CAT# RP01) with expected PCR product to be 513 bp.
Lane 1: RNase-free water
Lane 2: RNASecure
Lane 3: RNA-SafeGuard
(-) : negative control , RNA in RNase-free water with Taq only

RNA related solutions

Product Name	Description	Order Info
RNAfter™	RNAfter™ is a non-toxic reagent for storage of various animal or plant tissues, cultured cells and bacteria for RNA purification without using liquid nitrogen or -70℃ freezer. The sample can be stored in RNAfter™ reagent for a day at 37℃, 1 week at RT, one month at 4℃ and indefinitely at -20℃. The purified RNA quality is as high as stored in liquid nitrogen. This reagent can be used in genomic DNA purification from various samples.  **Figure 1. RNA purified from rat kidney stored in RNAfter™ using TriSolution.** 1: Stored at 37 ℃ for 24hrs in RNAfter™ 2: Stored at 4 ℃ for 30 days in RNAfter™ 3: Stored at -70 ℃ for 30 days without RNAfter™	RA-100, (100 ml) RA-500, (500 ml)
DEPC (0.1%) treated water	DEPC may be used as an added precaution when autoclaving may not be sufficient to eliminate sufficient RNase for some applications. DEPC-treated water is autoclaved pre- and post-packaging to ensure sterility and inactivation of DEPC. DEPC treated water is suitable for use in RNA related experiments.	GB14, (1 L)
Random Primer	Random Primers are oligodeoxyribonucleotides (mostly hexamers) used to prepare labeled DNA probes from templates for filter hybridization or *in situ* hybridization and to prime mRNAs with or without poly(A) for cDNA synthesis. These primers are truly random and are suitable for DNA synthesis using Klenow fragments with DNA templates or for cDNA synthesis using reverse transcriptase with mRNA templates.	GM004, (25 µg)
Oligo dT Primer	The oligo dT Primer consists 18 dT residues and is designed to prime polyA+ RNA for first-stranded cDNA synthesis.	GM005, (25 µg)
10X MOPS Buffer (for RNA)	10X MOPS Buffer is intended for use at 1X as electrophoresis and gel running buffer during the separation of RNA on denaturing formaldehyde/agarose gels. Product composition: 10X (200 mM MOPS, 20 mM Sodium acetate and 10 mM EDTA)	GB33, (500 ml)

Protein related & stain solutions

Product Name	Description	Product composition	Ordering Info
5X Protein Loading Buffer	5X Protein Loading Buffer is especially formulated for use in protein sample preparations for SDS-PAGE system. A protein sample is mixed with the 5X sample buffer (4:1) and is boiled (or heated) on a heating block for 2~5 minutes.	10% SDS, 50% Glycerol, 0.05 M DTT, 0.01 M EDTA, 0.05% Bromophenol blue and 0.125 M Tris HCl, pH approx. 6.8	GM47-b-50, (50 ml) GM47-b-100, (100 ml)
5X TG Buffer (Sterile)	TG Buffer is the electrophoresis buffer for polyacrylamide gels, which does not include SDS for protein denature in PAGE. TG Buffer is also use for transfer of Western blot.	0.25 M Tris, 1.92 M Glycine, pH 8.3 ± 0.05	GB04-1, (1 L) GB04-4, (4 x 1 L)
10X TGS Buffer (Sterile)	TGS Buffer is the electrophoresis buffer for polyacrylamide gels, which includes SDS for protein denature in the PAGE.	0.25 M Tris, 1.92 M Glycine, 1% SDS, pH 8.3 ± 0.05	GB05-1, (1 L) GB05-4, (4 x 1 L)
10X TBS Buffer (Sterile)	TBS Buffer is used in Western blot for protein detection.	0.25 M Tris, 1.37 M Sodium chloride, 0.027 M Potassium chloride, pH 7.4 ± 0.05	GB08-1, (1 L) GB08-4, (4 x 1 L)
10X TBST Buffer (Sterile)	TBST Buffer is used in Western blot for protein detection.	0.25 M Tris, 1.37 M Sodium chloride, 0.027 M Potassium chloride, 1% Tween-20	GB08T-1, (1 L) GB08T-4, (4 x 1 L)
TMB Solution	TMB is the most popular chromogenic substrate for horseradish peroxidase (HRP). TMB is used in immunohistochemistry as well as being a visualising reagent used in enzyme-linked immunosorbent assays (ELISA). In the presence of HRP, the reaction produces a deep blue byproduct.	TMB substrate (1 mg/ml) in DMSO, Substrate dilution buffer	GM61, (500 ml)
BSA Standard	BSA Standards are high-quality and universally accepted reference samples for generating accurate standard curves and calibration controls in total protein assays. Useful as an electrophoresis marker and standard for protein concentration reference standards in BCA, Bradford and other protein assay protocols.	Concentration: 1 mg/ml	GD0069-2, (2 ml) GD0069-10, (10 ml)

Protein related & stain solutions

Product Name	Description	Product composition	Ordering Info
4X Resolving Buffer	4X Resolving Buffer is used for the preparation of gradient, continuous and discontinuous denaturating polyacrylamide gels.	1.5 M Tris-HCl (pH 8.8), 0.4% SDS	GPB06, (500 ml) GPB06-1, (1000 ml)
4X Stacking Buffer	4X Stacking Buffer is used for the preparation of gradient, continuous and discontinuous denaturating polyacrylamide gels.	0.5 M Tris-HCl (pH 6.8), 0.4% SDS	GPB07, (500 ml) GPB07-1, (1000 ml)
Blocking Buffer	Blocking Buffer can minimize the non-specific signal in Western blot assay, for blocking the remaining surface of nylon or PVDF membrane. It can be used as a diluent for primary and secondary antibodies.	10 mM Tris-HCl, 0.9% NaCl, 0.1% Triton X-100, 0.25% gelatin, 0.02% SDS	GPB04, (500 ml)
10X Transfer Buffer (for Western blot)	Transfer Buffer is a commonly used Western blot buffer for the electro-transfer of proteins from SDS-PAGE gels to nitrocellulose or PVDF membranes. * Methanol is not supplied but is required.	250 mM Tris-HCl, 1.92 M Glycine	GPB05, (500 ml) GPB05-1, (1000 ml)
Stripping Buffer (Mild stripping)	Stripping Buffer is used in removal of primary and secondary antibodies from a Western blot membrane.	1.5% Glycine, 0.1% SDS, and 1% Tween-20, pH 2.2	GPB08, (500 ml)
Stripping Buffer (Harsh stripping)	Stripping Buffer is used in removal of primary and secondary antibodies from a Western blot membrane.	0.063 M Tris, 2% SDS, 0.8% ß-ME, pH 6.8	GPB09, (100 ml)
20X MOPS-SDS Running Buffer (just for NuPAGE)	MOPS-SDS Running Buffer is the electrophoresis buffer for NuPAGE polyacrylamide gels, and the buffer includes SDS for denatured protein in the PAGE.	20X (1 M MOPS, 1 M Tris Base, 2% SDS, 20 mM EDTA)	GB32, (500 ml)

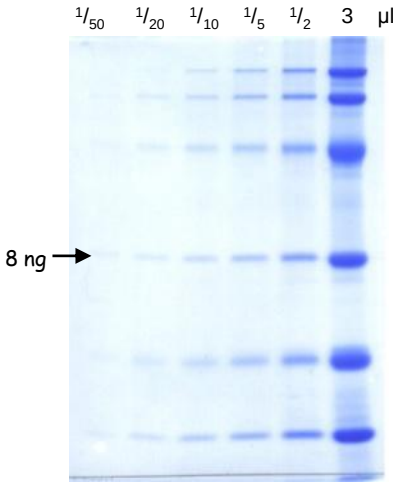
Protein related & stain solutions

Product Name	Description	Ordering Info
1.5 M Tris, pH 8.8 (Sterile)	1.5 M Tris (hydroxymethyl) HCl solution adjusted to pH 8.8.	GPB01, (500 ml) GPB01-1, (1000 ml)
1 M Tris, pH 6.8 (Sterile)	1 M Tris (hydroxymethyl) HCl solution adjusted to pH 6.8.	GPB02, (500 ml) GPB02-1, (1000 ml)
0.5 M Tris, pH 6.8 (Sterile)	0.5 M Tris (hydroxymethyl) HCl solution adjusted to pH 6.8.	GPB03, (500 ml) GPB03-1, (1000 ml)
2 M Tris, pH 8.0 (Sterile)	2 M Tris (hydroxymethyl) HCl solution adjusted to pH 8.0.	GPB10, (500 ml) GPB10, (1000 ml)
1 M Tris, pH 7.2 (Sterile)	1 M Tris (hydroxymethyl) HCl solution adjusted to pH 7.2.	GB39, (1 L)
1 M Tris, pH 7.4 (Sterile)	1M Tris (hydroxymethyl) HCl solution adjusted to pH 7.4.	GB40, (1 L)
1 M Tris, pH 7.5 (Sterile)	1M Tris (hydroxymethyl) HCl solution adjusted to pH 7.5.	GB41, (1 L)
1 M Tris, pH 8.0 (Sterile)	1M Tris (hydroxymethyl) HCl solution adjusted to pH 8.0.	GB42, (1 L)
1 M Tris, pH 8.3 (Sterile)	1M Tris (hydroxymethyl) HCl solution adjusted to pH 8.3.	GB49, (1 L)
0.2 M Tris, pH 8.3 (Sterile)	0.2 M Tris (hydroxymethyl) HCl solution adjusted to pH 8.3.	GB51, (1 L)
0.2 M Tris, pH 7.0 (Sterile)	0.2 M Tris (hydroxymethyl) HCl solution adjusted to pH 7.0.	GB54, (1 L)
2 M Tris, pH 9.0 (Sterile)	2 M Tris (hydroxymethyl) HCl solution adjusted to pH 9.0.	GB55, (1 L)

Protein related & stain solutions

Protein Stain

Product Name	Description	Ordering Info
InstantBlue™ Gel Staining Reagent	InstantBlue™ Gel Staining Reagent is a convenient alternative to traditional Coomassie Blue staining procedures, based on a colloidal G250 formulation. This ready-to-use stain contains no methanol, acetic acid and TCA for staining and requires no hazardous solvents for destaining. Protein bands analyzed using polyacrylamide gels are visible directly during the staining process just in 3 minutes. After staining, a simple and quick washing with water to yield a clear background, let sensitivity down to 8 ng under standard procedure.	GM49, (500 ml)



dNTP Solution Sets

2.5 mM / 10 mM dNTP Solution Set

Description

The dNTPs are preneutralized and ready for immediate use in PCR. The solution contains 2.5 mM of each dNTP (dATP, dCTP, dGTP and dTTP) for 2.5 mM dNTP Mix, and 10 mM of each dNTP (dATP, dCTP, dGTP and dTTP) for 10 mM dNTP Mix. dNTPs are adjusted to pH 7.0 with NaOH to provide in PCR.

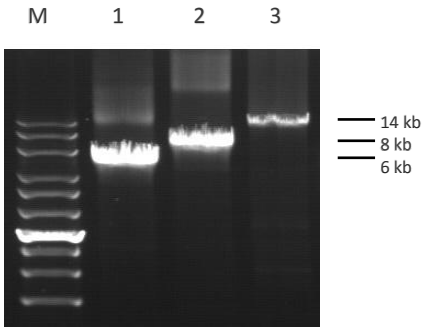


Figure 1. Amplification of Lamba DNA fragments using 2.5 mM dNPT Mix.
Lane 1: 5 µl PCR Product of 6 kb
Lane 2: 5 µl PCR Product of 8 kb
Lane 3: 5 µl PCR Product of 14 kb

100 mM dNTP Solution Set (A,C,G,T) / (A,C,G,U)

Description

Separate vials of dATP, dGTP, dCPT and dTTP each at a concentration of 100 mM for dNTP (A,C,G,T) Solution Set, and separate vials of dATP, dGTP, dCTP and dUTP each at a concentration of 100 mM for dNTP (A,C,G,U) Solution Set. The dNTPs are made by dissolving ultra-pure triphosphate powders in buffer at pH 7.0.

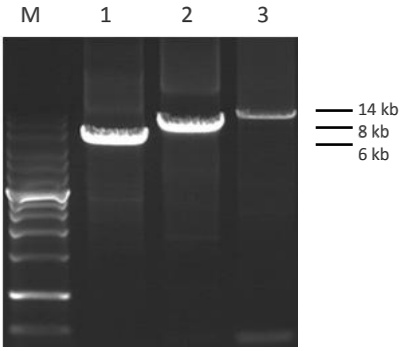


Figure 2. Amplification of Lamba DNA fragments using 100 mM dNPT Mix.
Lane 1: 4 µl PCR Product of 6 kb
Lane 2: 4 µl PCR Product of 8 kb
Lane 3: 4 µl PCR Product of 14 kb

Ordering Info

DESCRIPTION	Cat.No.	SIZE
2.5 mM dNTPs (A, C, G,T) Solution Set	GM0002	1 ml
10 mM dNTPs (A, C, G,T) Solution Set	GM007	1 ml
100 mM dNTPs (A, C, G, T) Solution Set	GD002-ACGT	400 µl each
100 mM dNTPs (A, C, G,U) Solution Set	GD002-ACGU	400 µl each
100 mM dATP Solution	GD002-A	400 µl
100 mM dCTP Solution	GD002-C	400 µl
100 mM dGTP Solution	GD002-G	400 µl
100 mM dTTP Solution	GD002-T	400 µl
100 mM dUTP Solution	GD002-U	400 µl

Antibiotic Solutions

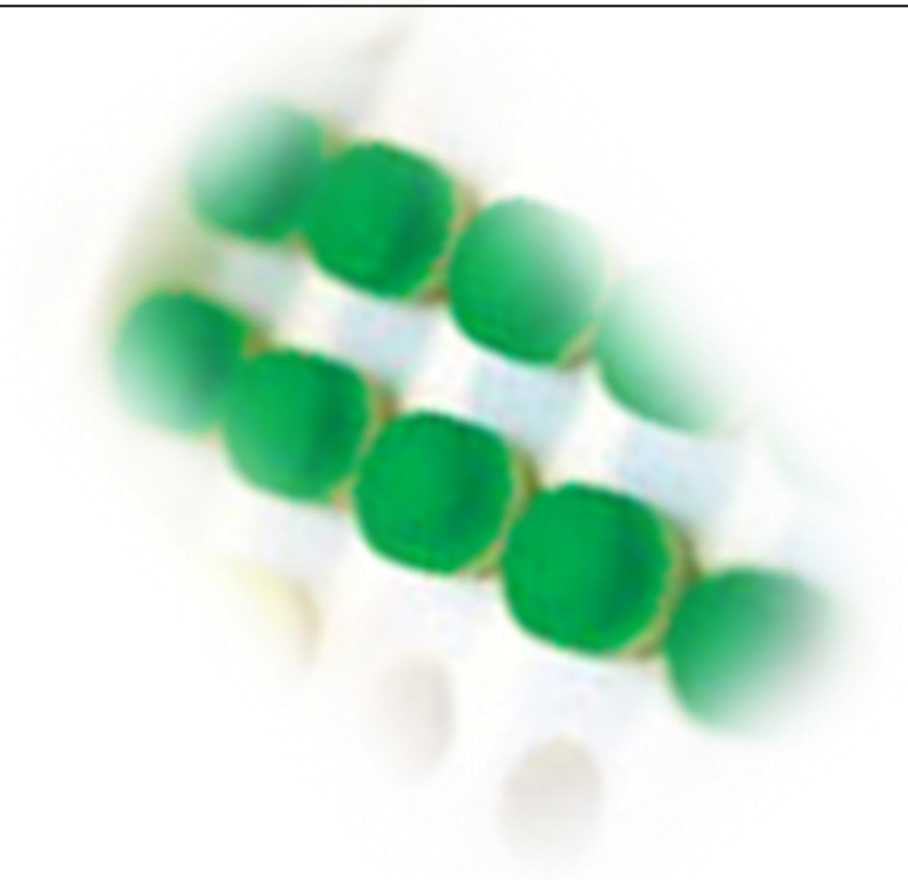
Ordering Info

Product Name	Cat.No.	SIZE	Stock Conc.	Sterillity
Amphotericin B	GAS01	1 ml x 10	2.5 mg/ml in H_2O	0.22 μm filtered
Ampicillin	GAS02	1 ml x 10	100 mg/ml in H_2O	0.22 μm filtered
Carbenicillin	GAS03	1 ml x 10	50 mg/ml in H_2O	0.22 μm filtered
Cefotaxime	GAS04	1 ml x 10	50 mg/ml in H_2O	0.22 μm filtered
Chloramphenicol	GAS05	1 ml x 10	50 mg/ml in 100% EtOH	need not be filtered
Erythromycin	GAS06	1 ml x 10	10 mg/ml in H_2O	0.22 μm filtered
G418	GAS07	1 ml x 10	50 mg/ml in H_2O	0.22 μm filtered
Gentamicin	GAS08	1 ml x 10	50 mg/ml in H_2O	0.22 μm filtered
Hygromycin B	GAS09-2 GAS09-10	1 ml x 2 1 ml x 10	50 mg/ml in H_2O	0.22 μm filtered
Kanamycin	GAS10	1 ml x 10	50 mg/ml in H_2O	0.22 μm filtered
Neomycin	GAS11	1 ml x 10	10 mg/ml in H_2O	0.22 μm filtered
Penicillin-G	GAS12	1 ml x 10	10,000 U/ml in H_2O	0.22 μm filtered
Rifampicin	GAS13	1 ml x 10	30 mg/ml in DMSO	need not be filtered
Spectinomycin	GAS14	1 ml x 10	50 mg/ml in H_2O	0.22 μm filtered
Streptomycin	GAS15	1 ml x 10	50 mg/ml in H_2O	0.22 μm filtered
Tetracycline	GAS16	1 ml x 10	5 mg/ml in H_2O	0.22 μm filtered
Antibiotic Antimycotic Solution (100x)	GAS011213	100 ml	10,000 units penicillin, 10 mg streptomycin, 25 μg amphotericin B per ml in H_2O	0.22 μm filtered
Penicillin-Streptomycin Solution	GAS1213	100ml	10,000 units penicillin, 10 mg streptomycin per ml in H_2O	0.22 μm filtered
Penicillin-Streptomycin-Neomycin solution	GAS111213	100ml	5,000 units penicillin, 5 mg streptomycin, 10 mg neomycin per ml in H_2O	0.22 μm filtered

Competent Cells

Ordering Info

Product Name	Description	Ordering Info
High Efficiency DH5a Competent Cells	The efficiency of the DH5a is up to 10^8 cfu/μg.	DH01-20, (20 reactions) DH01-100, (100 reactions)
High Efficiency BL21(DE3) Competent Cells	The *E. coli* strain is BL21(DE3) with efficiency up to 10^6 cfu/μg.	BL01-20, (20 reactions) BL01-100, (100 reactions)
High Efficiency XL-1 Blue Competent Cells	The efficiency of the XL-1 Blue is up to 10^8 cfu/μg.	XL01-20, (20 reactions) XL01-100, (100 reactions)
High Efficiency JM109 Competent Cells	The *E. coli* strain is JM109 with efficiency up to 10^6 cfu/μg.	JM01-20, (20 reactions) JM01-100, (100 reactions)



Other Solutions

Product Name	Description	Product Composition	Ordering Info
10X PBS Buffer (Sterile)	PBS Buffer is commonly used in biological researches such as cell culturing.	1.37 M Sodium chloride, 27 mM Potassium chloride, 43 mM $Na_2HPO_4 \cdot 7H_2O$, 14 mM KH_2PO_4, pH 7.4±0.05	GB07-1, (1 L) GB07-4, (4 L)
1 M Calcium chloride	Calcium chloride solution has many applications in cell and molecular biology experiments.	1 M Calcium chloride	GB12, (500 ml)
20% Glucose (Filtration)	Glucose is used as a supplement for cell culture and in numerous cellular processes, and molecular biology applications.	20% Glucose	GB13, (500 ml)
1 M DTT (Filtration)	DTT is a commonly used reagent in buffers because of its ability to reduce oxidation of a protein sample, and thereby, preserving the enzymatic activity.	1 M DTT	GB15, (5 x 1 ml)
0.5 M EDTA	EDTA is extensively used in molecular biology experiments as a chelating agent. Most applications of EDTA rely on its ability to chelate metal ions. After being bound by EDTA, metal ions remain in solution but exhibit diminished reactivity. Metal ions are necessary for the action of many enzymes including DNase.	0.5 M EDTA, pH8.0 ± 0.05	GB16, (500 ml) GB16-1, (1000 ml)
2% Gelatin (W/V) (Filtration)	2% solution of Gelatin from fish skin is prepared in tissue culture grade water. Before use, the gelatin solution needs to be fully dissolved in 40℃.	2% Gelatin	GB17, (500 ml) GB17-1, (1000 ml)
2X HBS (HEPES-buffer saline)	2X HBS buffer is prepared as a 2X concentrate and stored at -20℃.	42 mM HEPES, 273 mM NaCl, 10 mM KCl, 1.4 mM $Na_2HPO_4.12H_2O$, 15 mM Glucose, Adjust to pH 7.05 with 0.5 M NaOH.	GB18, (50 ml)

Other Solutions

Product Name	Ordering Info	Description
1X HBSS	GB19, (500 ml)	The essential function of a balanced salt solution is to maintain pH and osmotic balance as well as provide your cells with water and essential inorganic ions.
1X HBSS (Without Ca, Mg)	GB20, (500 ml)	
1X HBSS (Without phenol red)	GB21, (500 ml)	
1X HBSS (Without Ca, Mg, phenol)	GB22, (500 ml)	

Composition

Cat.No.	GB19	GB20	GB21	GB22
Product Name	1X HBSS	1X HBSS (without Ca,Mg)	1X HBSS (without phenol Red)	1X HBSS(without Ca,Mg and phenol)
	g/L	g/L	g/L	g/L
NaCl	8	8	8	8
$Na_2HPO_4 \cdot 12H_2O$	0.13	0.13	0.13	0.13
KCl	0.4	0.4	0.4	0.4
KH_2PO_4	0.06	0.06	0.06	0.06
$MgPO_4$	0.1	0	0.1	0
$CaCl_2$	0.14	0	0.14	0
Glucose	1	1	1	1
Phenol Red	0.01	0.01	0	0
$NaHCO_3$	0.35	0.35	0.35	0.35
pH 7.4±0.05				

Product Name	Description	Product Composition	Ordering Info
1X HEPES	HEPES is an organic zwitterionic buffering agent effective in the physiological pH range of 6.8 to 8.2 (pKa 7.55).	1 M solution of HEPES in high purity H_2O, adjusted with NaOH solution to pH 7.3 ± 0.05.	GB23, (500 ml) GB23-1, (1000 ml)
1 M IPTG	IPTG (isopropyl-beta-D-thiogalactopyranoside) induces the expression of genes under the control of lac operon and is suitable for cloning and protein expression procedures.	1 M IPTG	GB24, (10 x 1 ml)
3 M KCl	It is prepared as 3 M stock solution which can be diluted to desired concentration.	3 M KCl	GB25, (500 ml) GB25-1, (1000 ml)
7.5 M LiCl	The solution is intended for the precipitation of RNA following RNA isolation or *in vitro* transcription.	7.5 M LiCl	GB26, (500 ml)

Other Solutions

Product Name	Description	Product Composition	Ordering Info
Lysozyme	Lysozyme is often used for lysing bacterial cells by hydrolyzing the peptidoglycan present in the cell walls. Gram-positive cells are quite susceptible to this hydrolysis as their cell walls have a high proportion of peptidoglycan. It is suitable for use as a lysing agent in the purification of plasmid DNA using a boiling lysing technique.	Concentration: 10 mg/ml	GB28, (20 ml)
20% Maltose (Filtration)	D-Maltose is mostly used for study of maltose-binding proteins and disaccharide transport systems.	20% Maltose	GB29, (100 ml)
1 M Magnesium chloride	Magnesium chloride solution has many applications in molecular biology experiments.	1 M Magnesium chloride	GB30, (10 x 1 ml)
1 M Magnesium sulfate	Magnesium sulfate solution has many applications in molecular biology experiments.	1 M Magnesium sulfate	GB31, (10 x 1 ml)
10 N NaOH	NaOH solution can be used in various molecular biology protocols.	10 N NaOH	GB34, (100 ml)
1.5 N NaOH	NaOH solution can be used in various molecular biology protocols.	1.5 N NaOH	GB50, (1 L)
5 M NaCl (Sterile)	NaCl solution can be used in various molecular biology protocols.	5 M NaCl	GB35, (500 ml) GB35-1, (1000 ml)
S.O.C medium (Sterile)	SOC is a microbial growth rich medium used primarily in the recovery step of *Escherichia coli* competent cell transformations. Use of SOC maximizes the transformation efficiency of competent cells.	2% tryptone, 0.5% yeast extract, 8.6 mM NaCl, 2.5 mM KCl , 20 mM $MgSO_4$, 20 mM glucose	GB37, (10 ml) GB37-100, (100 ml)

Other Solutions

Product Name	Description	Product Composition	Ordering Info
1 M Spermidine (Filtration)	Spermidine can be used for binding and precipitating DNA, purification of DNA binding proteins and stimulating T4 polynucleotide kinase activity.	1 M Spermidine	GB38, (10 ml)
10X Universal KGB Buffer	This solution is a universal buffer for restriction endonuclease.	1 M Potassium acetate, 250 mM Trisacetate, 100 mM Magnesium acetate, 0.1 mg/ml bovine serum albumin, 5mM β-mercaptoethanol	GB43, (10 ml)
X-gal	X-gal (5-Bromo-4-Chloro-3 Indolyl-Beta-D-thiogalactopyranoside) is an inert chromogenic substrate for Beta-galactosidase that can be used in blue/white colony screening as well as in cell culture detection of β-galactosidase reporter gene expression.	Concentration: 20 mg/ml in DMSO	GB44, (10 x 1 ml)
1 M HCl	HCl solution can be used in various molecular biology protocols.	1 M HCl	GB52, (1 L)
10% SDS (Filtration)	Sodium dodecyl sulfate (SDS) is a protein denaturant used in polyacrylamide gel electrophoresis for molecular weight determination. It is also used in dissociation of nucleic acid-protein complexes in DNA extraction protocols, disrupting cell membranes, and preparation of prehybridization and hybridization solutions.	10% (w/v) in ddH_2O	GB56, (1 L)

Plant Virus Detection Kits

- *Low Cost*
- *High sensitivity*
- *More Reliability*











Plant Virus Detection Kits

Product Info

Plant	Virus	ELISA Kit	Antibody	RT-PCR Kit	RT-qPCR Kit (SYBR)
Orchid	ORSV	+	+	+	+
	CymMV	+	+	+	+
	CaCV	+	+	+	+
	CMV	+	+	+	+
	INSV	+	+	+	+
	TSWV	+	+	+	+
Bamboo	BaMV	-	-	+	+
Papaya	PRSV	+	+	+	+
	PLDMV	+	+	+	+
Melon	WSMoV	-	-	+	+
	MYSV	-	-	+	+
	CCYV	-	-	+	+
Dragon Fruit	PiVX	-	-	+	+
	CVX	-	-	+	+
	ZVX	-	-	+	+
Tomato	TYLCV	-	-	**(PCR Kit)**	**(qPCR Kit)**
	ToLCV	-	-	**(PCR Kit)**	**(qPCR Kit)**
Ornithogalum	OrMV	-	-	+	-

Product	Cat. No.	Package
1X Coating buffer for ELISA detection, 500 ml*3/set	ECB-500	1 set
Antibody dilution buffer for ELISA detection, 500 tests	EAB-500	250 ml
Substrate and buffer set for ELISA detection, 500 tests	ESB-500	1 set
1X PBS Buffer (For ELISA), 1 L*4/set	EPB-500	1 set

ELISA Detection Kits

Features

•Sensitivity:
Can detect viral protein particles as little as 0.025 ng/μl from plant samples.

•Fast and economical
Low cots and fast detection for large amount of samples.

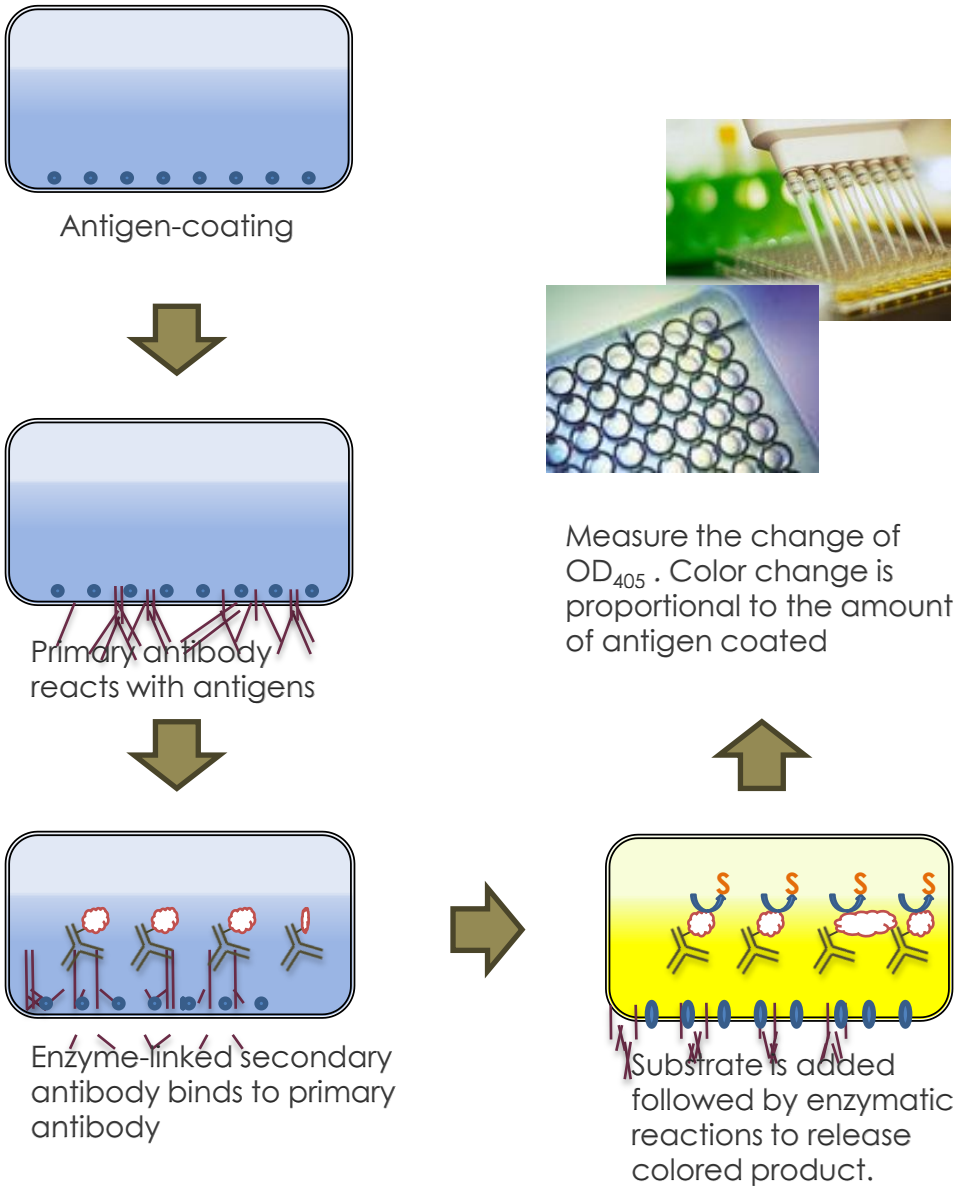
Application

Viral DNA detection.

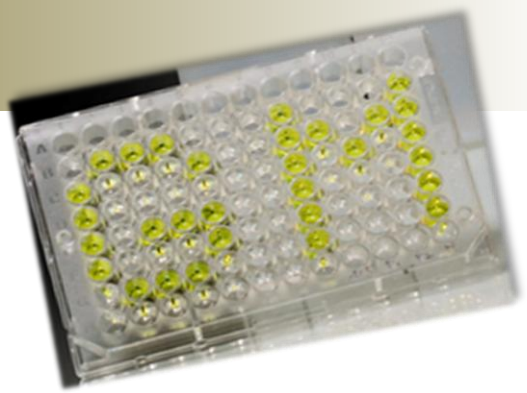
Description

GeneMark provides ELISA detection kits for detection of various viruses from different plant samples. The ELISA detection kit is based on the ELISA method, that is, by detecting the change of OD_{405} value due to interactions between antibody and viral protein. This method detects a single type of virus at once for each reaction, and can detect viral protein particles as little as 0.025 ng/μl. Polyclonal and/or monoclonal antibody is also available for purchase for other molecular experiments such as Western blotting.

Principle of Indirect ELISA

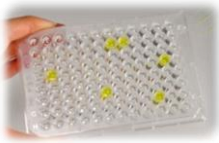


ELISA Detection Kits



Product Info

Product Name	Cat. No.
ELISA Detection Kit of Phalaenopsis (CymMV), 480 tests	GMK01CM-480
ELISA Detection Kit of Phalaenopsis (ORSV), 480 tests	GMK02OR-480
ELISA Detection Kit of Phalaenopsis (Mix of CymMV & ORSV), 480 tests	GMK02CO-480
ELISA Detection Kit of Phalaenopsis (Mix of CymMV & ORSV), 480 tests, 8 strip	GMK02CO-480S
ELISA Detection Kit of Phalaenopsis (Mix of CymMV & ORSV & CaCV), 480 tests	GMK02COCa-480
ELISA Detection Kit of Phalaenopsis (Mix of CymMV & ORSV & CaCV), 480 tests, 8 strip	GMK02COCa-480S
ELISA Detection Kit of Phalaenopsis (CaCV), 480 tests	GMK03CA-480
ELISA Detection Kit of Phalaenopsis (INSV), 480 tests	GMK08INS-480
ELISA Detection Kit of Phalaenopsis (TSWV), 480 tests	GMK09TSW-480
ELISA Detection Kit of CMV (group 1), 480 tests	GMK04CM-480
ELISA Detection Kit of Papaya (PRSV), 480 tests	GMK06PRS-480
ELISA Detection Kit of Papaya (PLDMV), 480 tests	GMK07PLD-480



Product Name	Cat. No.
Polyclonal antibody for detection of Phalaenopsis (CymMV), 1000X	EAb01CM
Polyclonal antibody for detection of Phalaenopsis (ORSV), 1000X	EAb02OR
Polyclonal antibody for detection of Phalaenopsis (CaCV), 1000X	EAb03CA
Polyclonal antibody for detection of Phalaenopsis (INSV), 1000X	EAb08INS
Polyclonal antibody for detection of Phalaenopsis (TSWV), 1000X	EAb09TSW
Monoclonal antibody for detection of Phalaenopsis (TSWV), 1000X	EAb09TSW-mNP01
Monoclonal antibody for detection of Phalaenopsis (TSWV), 1000X	EAb09TSW-mNSs01
Monoclonal antibody for detection of Phalaenopsis (TSWV), > 5000X	EAb09TSW-mNP02
Monoclonal antibody for detection of Phalaenopsis (TSWV), > 5000X	EAb09TSW-mNSs02
Polyclonal antibody for detection of CMV (group 1), 1000X	EAb04CM
Polyclonal antibody for detection of Papaya (PRSV), 1000X	EAb06PRS
Polyclonal antibody for detection of Papaya (PLDMV), 1000X	EAb07PLD

RT-PCR Detection Kits

Description

GeneMark RT-PCR/PCR detection series provide detection kits for various plant viruses. The series is mostly based on One-Step RT-PCR method, which is designed for the reverse transcription and PCR amplification of a specific target RNA from either total RNA or mRNA. The system uses M-MLV reverse transcriptase for first-strand cDNA synthesis and PCR amplification. This one-tube, two enzyme system provides sensitive and quick analysis of RNA detection. As for DNA viruses, PCR is used for viral DNA amplification.

Application

Viral DNA detection.

Product Info

Cat. No.	Product Name	Reaction
RP01-CO	One-Step Multiplex RT-PCR Detection Kit for CymMV & ORSV of Phalaenopsis Orchid	100
RP01-CA	One-Step Multiplex RT-PCR Detection Kit for CaCV of Phalaenopsis Orchid	100
RP01-CC	One-Step Multiplex RT-PCR Detection Kit for CaCV & CMV of Phalaenopsis Orchid	100
RP01-CM	One-Step RT-PCR Detection Kit for CMV of Phalaenopsis Orchid	100
RP01-INS	One-Step RT-PCR Detection Kit for INSV of Phalaenopsis Orchid	100
RP01-TSW	One-Step RT-PCR Detection Kit for TSWV of Phalaenopsis Orchid	100
RP01-BaM	One-Step RT-PCR Detection Kit for BaMV of Bamboo	100
RP01-PRS	One-Step RT-PCR Detection Kit for PRSV of Papaya	100
RP01-PLD	One-Step RT-PCR Detection Kit for PLDMV of Papaya	100
RP01-WSMo	One-Step Multiplex RT-PCR Detection Kit for WSMoV of Melon	100
RP01-MYS	One-Step Multiplex RT-PCR Detection Kit for MYSV of Melon	100
RP01-CCY	One-Step Multiplex RT-PCR Detection Kit for CCYV of Melon	100
RP01-WMC	One-Step Multiplex RT-PCR Detection Kit for WSMoV, MYSV & CCYV of Melon	100
RP01-PiVX	One-Step RT-PCR Detection Kit for PiVX of Dragon fruit	100
RP01-CVX	One-Step RT-PCR Detection Kit for CVX of Dragon fruit	100
RP01-ZVX	One-Step RT-PCR Detection Kit for ZVX of Dragon fruit	100
RP01-PCZ	One-Step Multiplex RT-PCR Detection Kit for PiVX, CVX & ZVX of Dragon fruit	100
RP01-OrM	One-Step RT-PCR Detection Kit for OrMV of Ornithogalum	100
RP02-TYL	PCR Detection Kit for TYLCV of Tomato	100
RP02-ToL	PCR Detection Kit for ToLCV of Tomato	100

One-Step Multiplex RT-PCR Detection Kit For CymMV & ORSV of Phalaenopsis Orchid

Features

• High Sensitivity:
High sensitive, can detect minimal amount of virus RNA (1.3 x 10^{-9} ng).

• Convenient:
Can detect more than one kind of virus strain at once.

• Fast and Accurate:
One-step RT-PCR mix containing specific primers for viral gene detection.

Description

The One-Step Multiplex RT-PCR Detection Kit For CymMV and ORSV of Phalaenopsis Orchid is designed as one-tube, two-enzyme system and multiplex virus-specific primers to provide sensitive, quick and specific analysis of CymMV (*Cymbidium mosaic virus*) and ORSV (*Odontoglossum ringspot virus*) RNA from the infected Phalaenopsis Orchid. The system uses M-MLV reverse transcriptase for first-strand cDNA synthesis and Taq for PCR amplification, and offers positive multiplex RT-PCR reaction. The amplified DNA fragments are generated with a 3' A-overhang that can be cloned into T-vector.

Application

Viral DNA amplification, cloning.

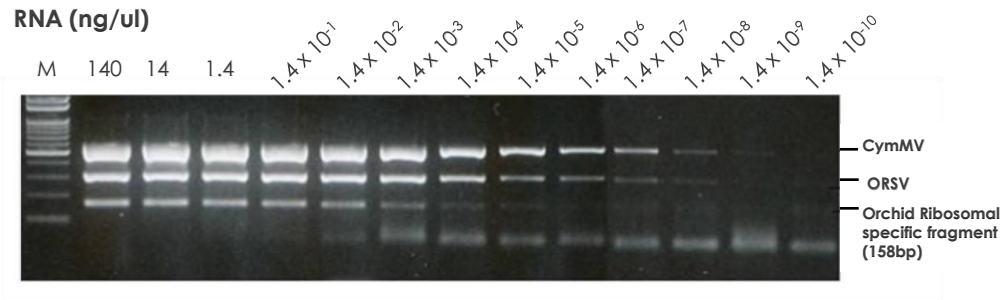


Figure 1. Sensitivity test of Phalaenopsis Orchid virus detection using One-Step Multiplex RT-PCR Detection Kit .
CymMV : *Cymbidium mosaic virus*
ORSV : *Odontoglossum ringspot virus*
Internal Control: Orchid ribosomal specific fragment

Ordering Info

DESCRIPTION	Cat.No.	REACTION
One-Step Multiplex RT-PCR Detection Kit for CymMV & ORSV of Phalaenopsis Orchid	RP01-CO	100

One-Step Multiplex RT-PCR Detection Kit For CaCV of Phalaenopsis Orchid

Features

• High Sensitivity:
High sensitive, can detect minimal amount of virus RNA (1.3 x 10^{-9} ng).

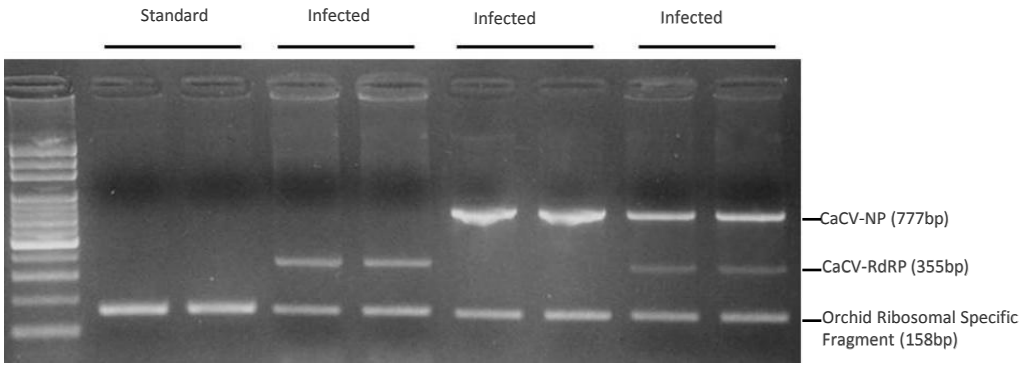
• Fast and Accurate:
One-step RT-PCR mix containing specific primers for viral gene detection.

Description

The One-Step Multiplex RT-PCR Detection Kit For CaCVof Phalaenopsis Orchid is designed as one-tube, two-enzyme system and CaCV multiplex specific primers to provide sensitive, quick and specific analysis of CaCV (*Capsicum chlorosis virus*) RNA from the infected Phalaenopsis Orchid. The system uses M-MLV reverse transcriptase for first-strand cDNA synthesis and PCR amplification, and offers positive control and ribosomal RNA specific primer as standard in the one-step multiplex RT-PCR reaction. The amplified DNA fragments are generated with an 3' A-overhang that can be cloned into T-vector. M-MLV reverse transcriptase lacks a 3'→ 5' exonucleolytic proofreading function and has a weak RNase H activity compared to AMV reverse transcriptase, and it is useful for full-length cDNA amplification.

Application

Viral DNA amplification, cloning.



Ordering Info

DESCRIPTION	Cat.No.	Reaction
One-Step Multiplex RT-PCR Detection kit for CaCV of Phalaenopsis Orchid	RP01-CA	100

SYBR RT-qPCR Detection Kits

Application

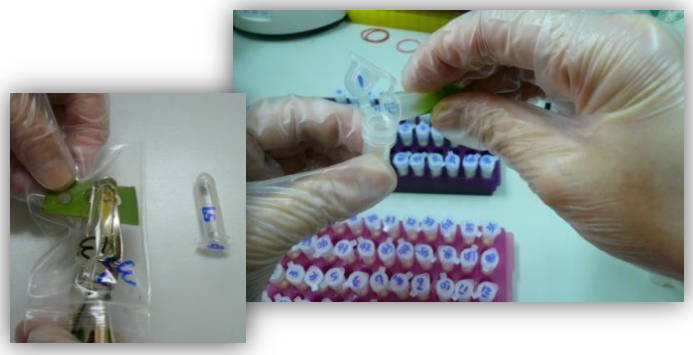
Viral DNA detection.

Description

For detection of plant viral RNA/DNA, GeneMark also provides SYBR RT-qPCR Kits specific for certain plant viruses.

Product Info

Cat.No.	Product Name	Plant	Reaction
RPQ01-CYM	CymMV SYBR RT-qPCR Kit	Phalaenopsis	100
RPQ01-OR	ORSV SYBR RT-qPCR Kit	Phalaenopsis	100
RPQ01-CA	CaCV SYBR RT-qPCR Kit	Phalaenopsis	100
RPQ01-CM	CMV SYBR RT-qPCR Kit	Phalaenopsis	100
RPQ01-IN	INSV SYBR RT-qPCR Kit	Phalaenopsis	100
RPQ01-TSW	TSWV SYBR RT-qPCR Kit	Phalaenopsis	100
RPQ01-BA	BaMV SYBR RT-qPCR Kit	Bamboo	100
RPQ01-PRS	PRSV SYBR RT-qPCR Kit	Papaya	100
RPQ01-PLD	PLDMV SYBR RT-qPCR Kit	Papaya	100
RPQ01-WSM	WSMoV SYBR RT-qPCR Kit	Melon	100
RPQ01-MYS	MYSV SYBR RT-qPCR Kit	Melon	100
RPQ01-CCY	CCYV SYBR RT-qPCR Kit	Melon	100
RPQ01-PiVX	PiVX SYBR RT-qPCR Kit	Dragon fruit	100
RPQ01-CVX	CVX SYBR RT-qPCR Kit	Dragon fruit	100
RPQ01-ZVX	ZVX SYBR RT-qPCR Kit	Dragon fruit	100
RPQ01-TYL	TYLCV SYBR qPCR Kit	Tomato	100
RPQ01-ToL	ToLCV SYBR qPCR Kit	Tomato	100



GMbiolab Co., Ltd. *(GeneMark)*

Phone: +886-4-2496-0907
Fax: +886-4-2496-2387
E-mail: info@genemarkbio.com
www.genemarkbio.com