Molecular Biology Products

PCR, RT-PCR, qPCR / Markers / Western / Protein Purification / Antibodies
Cloning & NGS Enzymes / CRISPR Cas9 / Transfection Reagents / siRNA / miRNA
Next Generation Sequencing (NGS) Service / Chemicals

www.abmgood.com

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PCR, RT-PCR & qPCR

PCR
RT-PCR
qPCR
SafeView™ DNA Stains
Chemicals
Modifying Enzymes
NGS Enzymes & Kits
Cloning Kits
RNA & DNA Purification Kits
DNA Markers

Next Generation Sequencing

RNA Sequencing (RNA-Seq)
Whole Genome Sequencing
Exome Sequencing (Exome-Seq)
Disease Panel & Pathway Genes
Targeted RNA Cancer Panel Service
Custom Targeted Sequencing
Epigenetic Profiling
Amplicon Sequencing

DNA & Cloning Services

SpeedySeq DNA Sequencing
Custom Gene Synthesis
Site Directed Mutagenesis
Plasmid Purification

Cell Biology

Primary Cells
Immortalized Primary Cells
Cell Culture Products
Cell Immortalization Reagents
Transfection Reagent
Growth Factors
Cell Lysate & Total RNA
Stable Cell Lines
Stem Cells
siRNA
siRNA Oligo
miRNA

Protein Expression & Analysis

Tag Antibodies & Tag Lysates
Loading Control Antibodies
Primary Antibodies
Secondary Antibodies
Recombinant Proteins
Protein Lysates
Cell Lysates & Total RNA
Western Blot/ELISA/IHC
Protein Markers
Protein Purification

Proteomic Services

Custom Antibody
Custom Peptide Synthesis
Protein Production

Vector & Virus Library

Adeno-Associated Virus (AAV)
Adenovirus
Lentiviral Vector/Virus
Cumate Lentiviral Vector/Virus
siRNA Lentiviral Vector/Virus
miRNA Lentiviral Vector/Virus
miRNA Expression Adenovirus
3'UTR Reporter Vector/Virus
ORF Vector
Protein Vector
Viral Expression System
iCRISPR/Cas9

Viral Packaging Services

Recombinant Lentivirus
Recombinant Adenovirus
Recombinant Retrovirus
Plasmid Purification

Cellular Services

IMPACT Contaminant Detection
Mycoplasma Detection & Elimination
Cell Immortalization
miRNA qPCR Profiling
Stable Cell Line Generation
iCRISPR Stable Knockout Cell Line

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PCR Products

DNA Polymerases

A key requirement for any successful PCR is the availability of thermostable DNA Polymerases that are enzymatically functional at the elevated temperatures (72°C - 95°C) required for template DNA denaturation and primer annealing. Using proprietary engineering, scientists at abm have generated a repertoire of thermostable DNA Polymerases that are endowed with enhanced enzymatic functions for diverse PCR applications. As summarized in Table 1, these enzymes have improved robustness, efficiency, specificity, fidelity, and speed, and are capable of amplifying long DNA templates. In addition, abm's Precision™ has been validated as the preferred choice for whole genome sequencing.

Table 1: Comparison of DNA Polymerase Products

Characteristics	DNA Polymerases								
	Bestaq™	**Kodaq**	**Precision™**	**Taq**	**Taq Plus**	**HotStart**	**TaqFast**	**Long Range**	**Bloodirect**
Fidelity *	50X	50X	60X	1X	5X	1X	10X	1X	1X
Processing Efficiency (per min)	3 - 4 kb	1 kb	1 kb	1 kb	1 kb	1 kb	4 -6 kb	3 - 4 kb	1 kb
Maximum Template Length	15 kb	12 kb	6 kb	6 kb	6 kb	6 kb	12 kb	20 kb	2 kb
DNA Product End	Blunt	Blunt	Blunt	3'- A	3'- A / Blunt	3'- A	Blunt	Blunt	Blunt
MasterMix Available	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Special Features	All PCR applications	High fidelity	High fidelity	Routine PCR	Improved fidelity	High specificiy	Fast PCR	Suitable for longer amplicons	DNA extractionfree

* Characteristics compared to the Taq polymerase

Bestaq™ DNA Polymerase (PCR)

Looking to improve your routine PCR?
Bestaq™ DNA Polymerase is the new standard.

With outstanding PCR yield, exceptional fidelity and high processivity, abm's Bestaq™ DNA Polymerase is a versatile enzyme ideal for all PCR applications. With this superior enzyme, you can consolidate all PCR protocols and reactions into one efficient system.

With abm's Bestaq™ DNA Polymerase, you can expect

- High-speed PCR without compromising accuracy
- High-processivity to reduce reaction time by 70%
- Cycling : 94°C 10 sec, X°C 30 sec, 72°C for 3-4 kb/min
- Robust and high yield across a wide range of templates
- Efficient amplification of DNA templates up to 15kb

Application

- High-throughput PCR
- Robust amplification of AT- and GC-Rich sequences
- RACE
- NGS Library construction

Extreme Processivity leads to Faster PCR

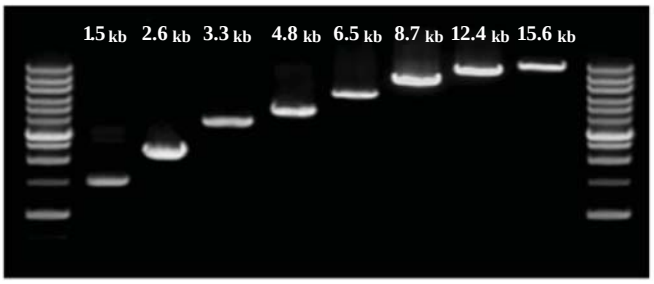


Figure 1: Bestaq™ Specifically Amplifies Genomic Template DNA up to 15.6 kb PCR amplification with Bestaq™ of various targets, ranging from 1.5 kb to 15.6 kb, from genomic DNA, followed by electrophoresis on a 1% agarose gel.

G456	Bestaq DNA Polymerase	5U/µl	250U
G457	Bestaq DNA Polymerase	5U/µl	1,000U
G464	2X PCR Bestaq Mastermix	5 x 1ml	500 Rxns/20µl
G464-dye	2X PCR Bestaq Mastermix w/ dye	5 x 1ml	500 Rxns/20µl

Kodaq DNA Polymerase

abm's Kodaq DNA Polymerase is the solution for a robust PCR system with high fidelity and yield.

abm's Kodaq DNA Polymerase is a novel DNA polymerase with strategically engineered mutations resulting in a robust, high fidelity polymerase. Kodaq DNA polymerase has exceptional 3' to 5' exonuclease activity that endows it with superior accuracy over competitor polymerases. This novel enzyme has intrinsically high processivity and is engineered to have an improved binding affinity for DNA resulting in highly successful PCR.

The Kodaq DNA Polymerase advanced and sophisticated buffer system not only tolerates high AT and GC content, but also many PCR inhibitors commonly found in a typical DNA sample.

Key Features:

- High fidelity PCR
- Robust PCR performance, resistant to most PCR inhibitors commonly found in samples (including plant samples)
- PCR success with A/T and G/C rich templates
- Highly processive, for high yield amplification

Application

- Routine PCR amplification
- PCR success with AT and GC Rich sequences
- High-throughput PCR
- RACE
- NGS Library construction

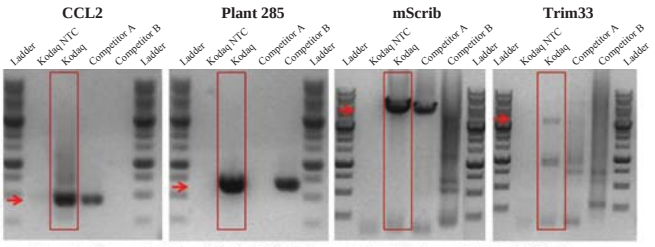


Figure 1 : Demonstration of Kodaq DNA Polymerase's robustness
Selected difficult templates, including a plant gDNA sample.

G498	Kodaq DNA Polymerase	5U/µl	250 U
G499	Kodaq DNA Polymerase	5U/µl	1,000 U
G497	Kodaq 2X PCR MasterMix	5 x 1.0 ml	(500 Rxns/20µl)
G497-dye	Kodaq 2X PCR MasterMix w/ dye	5 x 1.0 ml	(500 Rxns/20µl)

Precision™ DNA Polymerase (PCR)

Frustrated with amplification errors?
Let us introduce you to abm's Precision™ Polymerase.

Significant time and effort can be saved by using high fidelity polymerases that eliminate the need for downstream error-correction steps. The use of Precision™ DNA Polymerase for rare DNA templates is imperative as small amounts of DNA are especially prone to high mutant frequencies. abm's Precision™ DNA Polymerase is the ideal choice for applications demanding high fidelity PCR products.

With abm's Precision™ DNA Polymerase, you can expect
- Outstanding accuracy and efficiency
- Error-free PCR products for downstream processes

Application
- Whole genome sequencing
- Site-directed mutagenesis
- Blunt-end cloning
- Specific amplification of difficult templates (i.e. GC-Rich)
- Low copy PCR assays

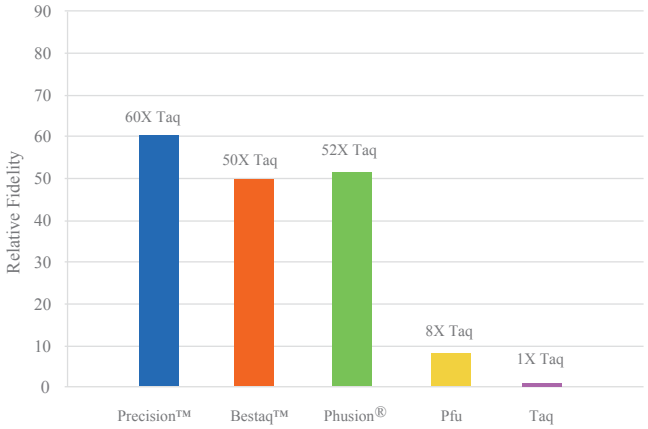


Figure 1: Precision™ has Exceptionally High Fidelity
Precision™ DNA Polymerase has the highest accuracy rate compared to other DNA polymerases. Shown as relative fidelity compared to Taq DNA Polymerase (Taq = 1X).

G078	Precision™ DNA Polymerase	5U/µl	500 U
G124	2X Precision™ MasterMix	5 x 1.0 ml (500 Rxns/20µl)	
G124-dye	2X Precision™ MasterMix w/dye	5 x 1.0 ml (500 Rxns/20µl)	

Taq DNA Polymerase (PCR)

Routine amplification in a cost-effective way?
abm's Taq DNA Polymerase is the answer.

With abm's Taq DNA Polymerase, you can expect
- Robust PCR performance with great reproducibility
- High sensitivity

Application
- Routine PCR amplification of DNA templates up to 6 kb
- Suitable for a wide range of PCR assays
- TA cloning

G009	Taq DNA Polymerase	5U/µl	1,000 U
G008	Taq DNA Polymerase	5U/µl	5,000 U
G126	Taq DNA Polymerase	5U/µl	10,000 U
G013	2X PCR Taq MasterMix	5 x 1.0 ml (500 Rxns/20µl)	
G013-dye	2X PCR Taq MasterMix with dye	5 x 1.0 ml (500 Rxns/20µl)	
G900	2X PCR Taq MasterMix	25 x 1.0 ml (2,500 Rxns/20µl)	
G900-dye	2X PCR Taq MasterMix w/ dye	25 x 1.0 ml (2,500 Rxns/20µl)	

Taq Plus DNA Polymerase (PCR)

Cost-effective quick PCR with improved fidelity?
With abm's Taq Plus DNA Polymerase.

abm's Taq Plus DNA polymerase employs an optimized two-polymerase blend that provides high product yield, sensitivity and fidelity.

With abm's Taq Plus DNA Polymerase, you can expect
- Improved sensitivity and fidelity compared to conventional Taq DNA Polymerase
- Robust and consistent performance across a wide range of templates
- An economical alternative to Taq DNA Polymerase

Application
- Routine PCR amplification of DNA templates up to 6 kb
- Suitable for a wide range of PCR assays
- TA cloning, Blunt cloning

G012	Taq Plus DNA Polymerase	5U/µl	250 U
G040	Taq Plus DNA Polymerase	5U/µl	1,000 U
G014	2X Taq Plus MasterMix	5 x 1.0 ml (500 Rxns/20µl)	
G014-dye	2X Taq Plus MasterMix w/ dye	5 x 1.0 ml (500 Rxns/20µl)	
G901	2X Taq Plus MasterMix	25 x 1.0 ml (2,500 Rxns/20µl)	
G901-dye	2X Taq Plus MasterMix w/dye	25 x 1.0 ml (2,500 Rxns/20µl)	

HotStart DNA Polymerase (PCR)

Problems with non-specific amplification and primer-dimer formation?
Try abm's HotStart DNA Polymerase.

HotStart DNA Polymerase is chemically modified such that the Taq enzyme is inactivated by a heat-labile group at room temperature. This feature significantly reduces non-specific product formations that would otherwise compete for reagent availability. Thus, abm's HotStart DNA Polymerase offers improved yield of desired PCR products.

With abm's HotStart DNA Polymerase, you can achieve
- The highest specificity with minimal background
- Superior performance
- Improved yield of desired product

Application

- Assays with prolonged reaction setup or liquid handling
- Multiplex PCR
- Specific amplification of difficult templates (i.e. G-C rich)
- Low copy PCR assays
- TA Cloning

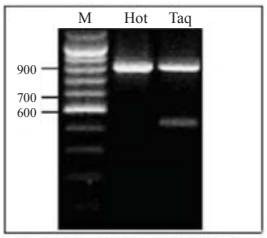


Figure 1: Comparison of specificity of Taq and Hotstart Taq polymerase. cDNA was reverse transcribed using random primers from 2 ug of total RNA isolated from mouse macrophage cells. 2ul of cDNA was then amplified by PCR using primers that produce a 900bp DNA fragment of mouse IL-2 receptor on 1.0% gel electrophoresis.

G011	HotStart DNA Polymerase	5U/µl	250 U
G039	HotStart DNA Polymerase	5U/µl	1,000 U
G906	2X HotStart MasterMix	5 x 1.0 ml	(500 Rxns/20µl)
G906-dye	2X HotStart MasterMix w/dye	5 x 1.0 ml	(500 Rxns/20µl)

TaqFast DNA Polymerase (PCR)

Short on time? abm's TaqFast DNA Polymerase to the rescue.

With extension rate as fast as 10 sec/kb (compared to 60 sec/kb with regular Taq), abm's TaqFast DNA polymerase offers the ultimate speed to dramatically reduce total reaction time. In addition to improved processivity, TaqFast DNA polymerase also possesses moderate 3'-5' proofreading activity, making this enzyme well suited for high-throughput PCR.

With abm's TaqFast DNA Polymerase, you can expect
- High-speed PCR without compromising accuracy
- High-processivity to reduce reaction time by 80%

Application

- Fast PCR
- High-throughput PCR

G277	TaqFast DNA Polymerase (PCR)	250 U (50 µl)
G278	TaqFast DNA Polymerase (PCR)	1,000 U (200 µl)
G280	2X PCR TaqFast MasterMix	5 x 1.0 ml (500 Rxns/20ul)
G280-dye	2X PCR TaqFast MasterMix w/dye	5 x 1.0 ml (500 Rxns/20ul)

Long-Range DNA Polymerase (PCR)

Struggling to amplify long targets? abm's Long-Range DNA Polymerase will end your fight.

abm's Long-Range DNA polymerase is capable of amplifying templates up to 20kb with minimal optimization. Coupled with superb performance, this enzyme's enhanced extension rate drastically reduces the overall reaction time. abm's Long-Range DNA polymerase is the ideal choice for generating long PCR products with extreme sensitivity and processivity.

With abm's Long-Range DNA Polymerase, you can expect
- High-speed PCR without compromising accuracy
- High-processivity to reduce reaction time by up to 70%
- Efficient amplification of DNA templates up to 20kb

Application

- Long range PCR
- Robust amplification of AT- and GC-Rich sequences

G460	Long-Range DNA Polymerase (PCR)	250 U (50 µl)
G461	Long-Range DNA Polymerase (PCR)	1,000 U (200 µl)

Bloodirect DNA Polymerase (PCR)

Extraction-free DNA amplification from whole blood samples with abm's Bloodirect DNA Polymerase.

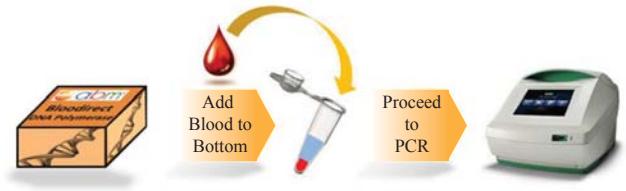
With this unique enzyme, DNA can be amplified in reactions containing up to 20% (v/v) whole blood sample without a separate DNA purification step. As a result, the use of abm's Bloodirect DNA Polymerase offers an overall reduction in contamination risk, experimental run time, and cost of genetic testing.

With abm's Bloodirect DNA Polymerase, you can

- Eliminate lengthy DNA purification steps
- Achieve direct amplification from fresh or frozen blood preserved in EDTA, citrate or heparin

Application

- Whole blood PCR



Notes

1. Whole blood samples containing sodium citrate, sodium EDTA, potassium EDTA, or sodium heparin are recommended.
2. Blood volume higher than 10 % (v/v) would increase the difficulties in recovering aqueous supernatant from blood cell debris that remains after PCR.
3. Dry blood stored on Guthrie cards or 903 cards (Whatman, NJ) can be used directly by adding 1 mm punch disc to PCR reaction
4. For blood stored on FTA cards (Whatman, NJ), first incubate a 1 mm punch disc in 50 µl of water at 55°C for 5 minutes, then discard the water and use the disc directly in PCR reaction.
6. Up to 10% (v/v) DMSO can be used for high-GC targets.

G462	Bloodirect DNA Polymerase	1U/µl	100 U
G463	Bloodirect DNA Polymerase	1U/µl	400 U
G465	Booldirect 2X PCR MasterMix	5 x 1.0 ml (500 Rxns/20µl)	

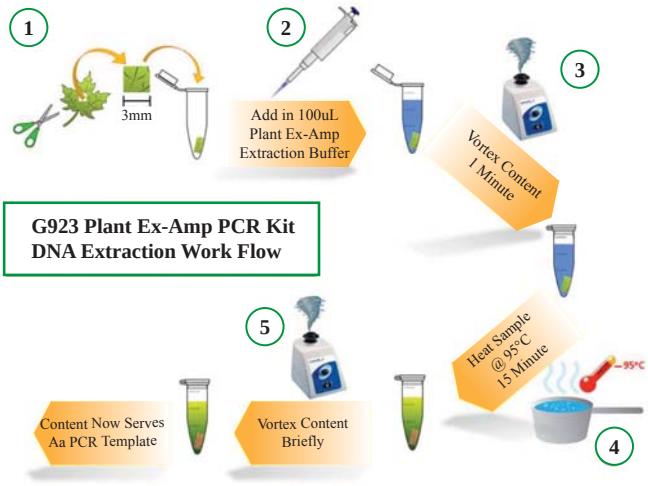
Plant Ex-Amp PCR Kit (with Kodaq MasterMix)

The best companion of plant PCR research:

abm's Plant Ex-Amp PCR Kit offers the ultimate convenience for plant PCR. The hassle-free gDNA extraction process eliminates the conventional freezing of plant tissues with liquid nitrogen, mechanical disruption, organic extraction, column DNA purification, or alcohol precipitation. It only takes 15 easy minutes to "vortex-boil-vortex" a small piece of plant sample in abm's proprietary extraction buffer to obtain PCR-ready template. The kit comes with abm's sophisticated Kodaq 2X PCR Mastermix with dye; the mastermix is not only for un-beatable robustness and extreme fidelity, but also for a very streamlined and efficient PCR setup. abm's Plant Ex-Amp PCR Kit is also very effective against some commonly known difficult samples such as pine-tree-like samples.

Application

- Plant PCR
- Gene/transgene detection
- Plant sample genotyping



G923 Plant Ex-Amp PCR Kit DNA Extraction Work Flow

- No time-consuming DNA purifications
- Only small amount of sample needed
- Simple universal protocol for various plant samples
- Kodaq 2X PCR MasterMix with Dye for Robust PCR and gel-loading-ready PCR products.

No more under/over-run agarose gel electrophoresis:

Kodaq 2X PCR MasterMix with dye contains a green dye blend which resolves during gel electrophoresis into a turquoise band at ~4000bp and a yellow band at the ~50bp region. The resolving bands of dye allow easy visualization of the real time progress of your gel electrophoresis, where the yellow band indicates the migrating front on the gel.

G923	Plant Ex-Amp PCR Kit (with Kodaq MasterMix) 25 preps, 200 Rxns/50µl

Safe-Green™ 2X PCR Taq MasterMix

Everything you need for PCR amplification and instant band visualization, in a single solution.

abm's Safe-Green™ 2X PCR Taq MasterMix contains all necessary reagents for PCR along with a non-mutagenic Safe-Green™ reagent which allows immediate visualization of amplified PCR product. This innovative MasterMix offers improved biosafety, time savings and ultimate convenience for streamlining your PCR whilst eliminating hazardous ethidium bromide consumption completely.

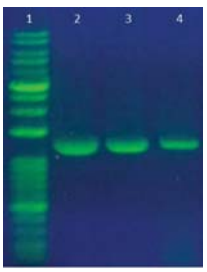
This MasterMix contains Xylene Cyanol and Orange G as electrophoresis dyes, with migration equivalent to 4000bp and 50bp DNA fragment on an agarose gel, respectively.

With abm's Safe-Green™ 2X PCR Taq MasterMix, you can

- Reduce PCR set up time
- Eliminate ethidium bromide usage and associated waste disposal costs
- Increase PCR efficiency and reproducibility

Application

- Robust PCR performance with great reproducibility
- High sensitivity



1 : Safe-Green™ 1kb Opti-DNA Marker Cat. G474
2~4 : 1.25 kb target amplified from various template concentrations.

G472	Safe-Green™ 2X Taq MasterMix 5 x 1.0ml, 500 Rxns/20µl

Safe-Green™ 2X Bestaq™ MasterMix

Everything you need for PCR amplification and instant band visualization, in a single solution.

abm's Safe-Green™ 2X PCR Bestaq™ MasterMix contains all necessary reagents for PCR along with a non-mutagenic Safe-Green ™ reagent which allows immediate visualization of amplified PCR product. This innovative MasterMix offers improved biosafety, time savings and ultimate convenience for streamlining your PCR whilst eliminating hazardous ethidium bromide consumption completely.

This MasterMix contains Xylene Cyanol and Orange G as electrophoresis dyes, with migration equivalent to 4000bp and 50bp DNA fragment on an agarose gel, respectively.

With abm's Safe-Green™ 2X PCR Bestaq™ MasterMix, you can

- Reduce PCR set up time
- Eliminate ethidium bromide usage and associated waste disposal costs
- Increase PCR efficiency and reproducibility

Application

- High-speed PCR without compromising accuracy
- High-processivity to reduce reaction time by up to 70%
- Robust and high yield across a wide range of templates
- Efficient amplification of DNA templates up to 15kb

G478	Safe-Green™ 2X Bestaq™ MasterMix 5 x 1.0ml, 500 Rxns/20µl

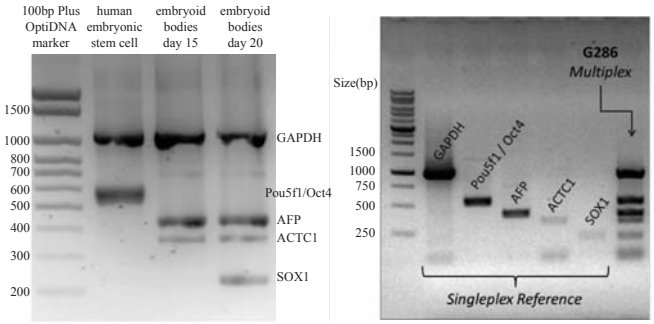
Tri-Lineage Multiplex PCR Kit

The Human Tri-Lineage Multiplex PCR Kit is intended for characterizing human embryonic stem cells (hESCs) and pluripotent human embryonal carcinoma stem cells (hECs). It allows a simultaneous determination of stem cell pluripotency and differentiation state through a multiplex PCR reaction. This method of characterization is fast and effective; it also has less stringency in sample volume requirements as compared to other conventional methods such as immunocytochemistry.

The included Bestaq™ 2X PCR MasterMix with dye provides all ingredients necessary for PCR in a premixed and optimized format that simplifies the PCR workflow. In addition, it contains a green dye blend which resolves during gel electrophoresis into a turquoise band at ~4000bp and a yellow band at the ~50bp region. The resolving bands of dye allow easy visualization of the real time progress of your gel electrophoresis, where the yellow band indicates the migrating front in the gel.

Five sets of primers

Primer	Fragment Size	Purpose
Pou5f1/Oct4	~500bp	Indicates active pluripotent state
AFP	~400bp	Indicates differentiation into endoderm lineage
ACTC1	~300bp	Indicates differentiation into mesoderm lineage
SOX1	~200bp	Indicates differentiation into ectoderm lineage
GAPDH	~1kb	Internal standard for normalizing RNA Conc.



G286	Tri-Lineage Multiplex PCR Kit	100 Rxns/50µl

Kit Component

2X PCR Bestaq™ MasterMix with dye	1 ml X 3
Tri-Lineage Primer Mix	200µl

PCR Mycoplasma Detection Kit

Mycoplasma detection is often difficult due to its lack of visable appearance, therefore it can be afflicting your valuable cell and affecting your results without your knowledge. Cells contaminated by mycoplasma species can have changes in proliferation, metabolism, gene synthesis and processing, and even adhersion properties. The solution for quick and easy mycoplasma detection is ABM's PCR Mycoplasma Detection Kit.

The PCR Mycoplasma Detection Kit allows for fast and reliable identification of mycoplasma contamination in cell cultures. Mycoplasma DNA in the cell culture supernatant is amplified via PCR and visualized using gel electrophoresis. In addition to the short detection process (less than 2 hours), the easy handling and high sensitivity makes this PCR Mycoplasma Detection Kit a convenient tool for routine examination of cell cultures and media.

- Direct addition of cell culture supernatant to PCR reaction
  - no DNA isolation/purification steps required.
- Ready-to-use primer mix - reduces variability.
- Able to detect numerous mycoplasma species
  - over 200 species/strains of mycoplasmas
  - high sensitivity.
- Included positive control to verify negative results.
- Rapid results in 2 hours.

G238	PCR Mycoplasma Detection Kit	100 Rxns

Related products

Mycoplasma Elimination Cocktail

The cocktail eliminates mycoplasma in 4 cell passages and is not cytotoxic to most mammalian cell lines. For eliminating mycoplasma infections, the cocktail should be used at a 1:1000 dilution in complete culture medium. For maintaining mycoplasma-free cultures, the cocktail can be used regularly at a decreased concentration of 1:10000.

- Direct addition of cocktail to cell culture medium - no change to routine cell culture methods needed.
- Effectively eliminates over 70 types of mycoplasma species
  - broad range.
- Not cytotoxic to most mammalian cell lines.
- Eliminates mycoplasma in less than 2 weeks (4 cell passages).

G398	Mycoplasma Elimination Cocktail	2 x 1.0ml

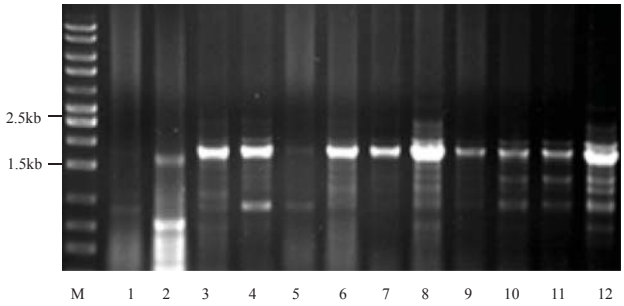
PCR-Sure™ Kit

It has been well established that many variables affect a particular PCR reaction: template structures, primer design, annealing temperature, concentration of Mg^2, etc. The PCR-Sure™ Kit was developed to simplify the PCR optimization process. The system consists of multiple thermo-stable DNA polymerases pre-mixed with 12 optimized buffers in a 2X MasterMix format, saving a great amount of time in PCR set-up compared to the non-MasterMix PCR optimization format. To find the optimal conditions for your difficult PCR, all you need to do is to mix templates, primers, and H_2O with the PCR-Sure™ 2X MasterMix.

The MasterMixes in this kit contain Cresol Red as an electrophoresis dye, with migration equivalent to 125 bp DNA fragment on an agarose gel.

Application

There are a total of 12 Individual Reaction Mixes. After the optimal reaction condition is identified, the Individual Reaction Mixes may be ordered separately. For the catalog number G065-X, the X indicates a number from 1 to 12. When ordering, please specify a unique catalog number.



Amplification of 1.7 kb human E1Fa promoter using the PCR-Sure™ optimization kit.
The promoter has been previously shown to be difficult to amplify under standard PCR conditions using Taq polymerase form Invitrogen, Qiagen, and others (including lane 1). Using the PCR-Sure™ kit, the promoter can be easily amplified under several conditions lane 3, 6, and 8.

G065	PCR-Sure™ Kit	12 x 5 Rxns
G065-X*	Individual Reaction Mix	5 x 1.0 ml (500 Rxns/20µl)

Kit Component
1. G065: A set of 12 individual PCR MasterMix at 125 µl each.
2. G065-X (X: 1~12): An individual PCR MasterMix (5 X 1 ml).

dNTP Mix

The dNTP Mix is a ready-to-use aqueous solution containing dATP, dCTP, dGTP and dTTP, each at a final concentration of 10mM. The Mix reduces the number of pippeting steps and the risk of errors.

G010	dNTP Mix	250 µl, 10 mM each
G128	dNTP Mix	500 µl, 10 mM each
G129	dNTP Mix	1.0 ml, 10 mM each

dNTP Set

The set consists of 100mM aqueous solutions of dATP, dCTP, dGTP and dTTP each supplied in a separate vial.
Since the nucleotides are provided separately, the dNTP Set offers maximum flexibility in preparation of reaction mixes for different applications.

G050	dNTP Set	4 x 0.25 ml (100 mM each)

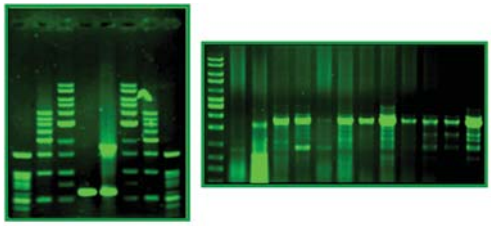
SafeView™

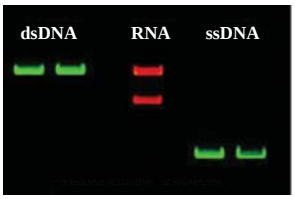
SafeView™ products represent a new and safe class of nucleic acid stains for the visualization of double-stranded DNA, single-stranded DNA, and RNA in agarose gels. The dyes are developed to replace toxic Ethidium Bromide (EtBr, a potent mutagen), commonly used in gel electrophoresis for visualization of nucleic acids in agarose gels.

SafeView™ products are non-carcinogenic by the Ames-test. The results are negative in both the mouse marrow chromophilous erythrocyte micronucleus and mouse spermary spermatocyte chromosomal aberration tests.

SafeView™ Classic

SafeView™ Classic is used the same way as Ethidium Bromide in agarose gel electrophoresis. It emits green fluorescence when bound to dsDNA and red fluorescence when bound to ssDNA or RNA. 10,000X. **SafeView Classic is used directly in the gel and the running buffer.**





Under UV, SafeView Classic emits a green fluorescence when bound to both single and double stranded DNA templates. It will emit a red fluorescence when bound to RNA templates.

SafeView™ Classic (G108)

Visualiztion of PCR amplified PCR with Safeview Stain

Safe-Green, Red, White

- Substitute for loading dye

With SafeView™ dyes (Safe-Green, Red, White, Pack™), you do not need to add any dyes to both gel matrix and running buffers. SafeView™ dyes are provided in a form of 6x sample loading dyes and they are to be added to your samples only. After the electrophoresis, view and document your results as you would do with EtBr staining protocols.

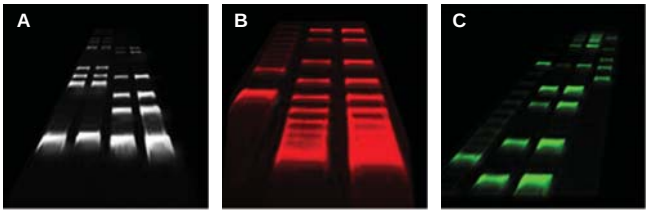


Fig. Agrose gel electrophesis of DNA with Safe-White™ (A), Safe-Red™ (B) and Safe-Green™(C) with color filters .

SafeView Plus™

Higher sensitivity and enhanced performance than SafeView™.

For post electrophoresis DNA staining.

Diluting SafeView Plus™ 1:5,000 - 1:10,000 in TE, TAE or TBE buffer. No destaining is required visualize results directly under UV light.

Safe Detection of dsDNA, ssDNA and RNA in agarose gels.

What is the sensitivity of the dyes?

	Excitation	Emission	Sensitivity
SafeView Classic	290nm	490 & 605nm	0.1 ~ 0.3ng
SafeView Plus	490nm	520nm	0.05-0.1ng
Safe-Green	290nm	490nm	0.2 ~ 0.6ng
Safe-Red	490nm	630nm	0.3 ~ 0.8ng
Safe-White	320nm	480nm	0.2 ~ 0.5ng

Can SafeView be a replacement for ethidium bromide? Can I do gel extraction with it?
SafeView can be used as a replacement for ethidium bromide as they both work on general agarose. We recommend using SafeGreen for downstream cloning applications as SafeView can interfere with the ligation reaction, yielding fewer colonies.

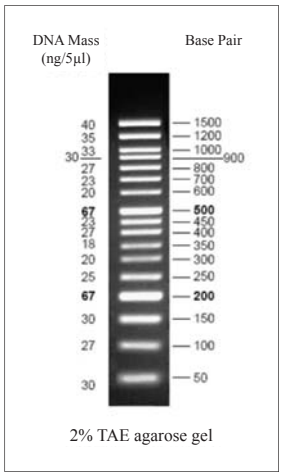
Which of the Safe stains will work with blue light /LED?
SafeView Classic, SafeView Plus, and SafeGreen with will work under blue light/LED. SafeRed and SafeWhite will only work under UV light.

Can SafeView products be used post-stain?
Only SafeView Plus (G468) should be used in a post stain. SafeView classic and Safe Stains are not designed for post-staining. SafeView Classic must be added to the gel and the running buffer prior to the loading of the samples. Safe-(Red, Green and White) stains must be added to the sample before loading it to the gel.

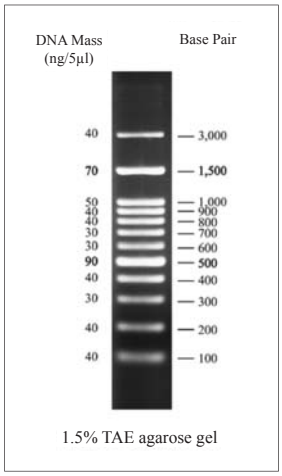
Do SafeView products give problems in the process of cloning?
We recommend using Safe-Green (G108-G) for downstream cloning applications, as testing has shown it yields more colonies following the ligation reaction than SafeView (G108).

Cat No.	Description	
G108	SafeView™ Classic	1 ml
G468	SafeView Plus™	1ml
G108-G	Safe-Green™	1 ml
G108-R	Safe-Red™	1 ml
G108-W	Safe-Whire™	1 ml
G108-P	Safe-Pack™ , G108-G, R, W	3 x 1ml

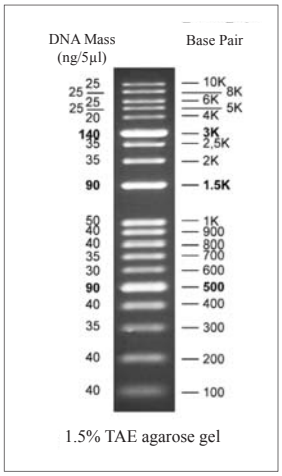
OptiDNA Marker



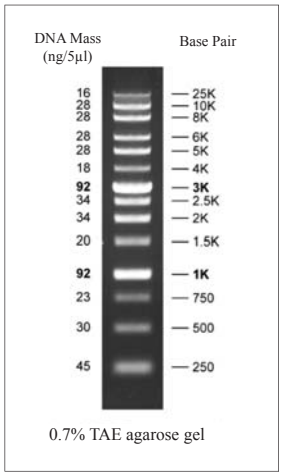
100 bp OptiDNA Marker



100 bp Plus OptiDNA Marker



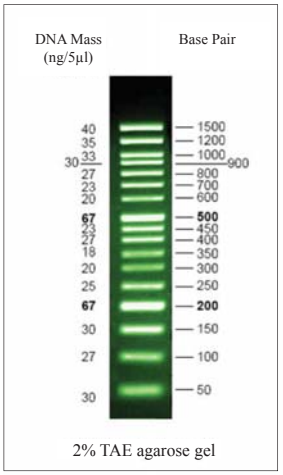
1 kb OptiDNA Marker



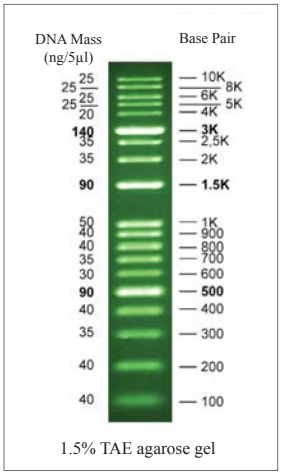
1 kb Plus OptiDNA Marker

G016	100bp Opti-DNA Marker	500 µl/100 loads
G193	100bp Plus Opti-DNA Marker	500 µl/100 loads
G106	1kb Opti-DNA Marker	500 µl/100 loads
G248	1kb Plus Opti-DNA Marker	500 µl/100 loads

Safe-Green™ Opti-DNA Markers



Safe-Green™ 100bp Opti-DNA Marker



Safe-Green™ 1kb Opti-DNA Marker

Safe-Green™ Opti-DNA Markers contain Safe-Green™ DNA stain which is a non-toxic and efficient alternative DNA visualizing agent to the carcinogenic ethidium bromide (EB). The brightness of Safe-Green™ Opti-DNA Markers is optimized for compatible and proper camera exposure in applications along with PCR products generated from abm's Safe-Green™ 2X PCR MasterMixes as well as from any other SYBR Green-alike-based PCR amplification.

Visualize the gel using an UV light source.

G473	Safe-Green™ 100bp Opti-DNA Marker	500 µl/100 loads
G474	Safe-Green™ 1kb Opti-DNA Marker	500 µl/100 loads

Related Products

G472	Safe-Green™ 2X PCR Taq MasterMix	5 x 1 ml (500 Rxns)
G478	Safe-Green™ 2X PCR Bestaq™ MasterMix	5 x 1 ml (500 Rxns)

EasyScript™ RTase

Synthesize cDNA from only 0.1pg of RNA with abm's EasyScript™ Reverse Transcriptase.

Using strategic modifications, abm's EasyScript™ Reverse Transcriptase lacks the intrinsic RNase H acitivity thereby drastically increases the yield and achievable synthesized cDNA length (up to 9kb). In addition, EasyScript™ contains a fidelity-enhancing subunit which ensures superior accuracy in reverse transcription reaction(s).

Application

- Synthesizing cDNA from a ssRNA
- DNA primer extension
- Sequencing dsDNA
- Constructing cDNA library
- Constructing libraries for serial analysis for gene expression (SAGE)
- Synthesizing cDNA in rapid amplification of cDNA ends (3' & 5' RACE)
- Producing template for use in RT-PCR or real-time RT-PCR
- Labelling 3'-end of duplex DNA via end-filling reactions
- Generating probes for hybridization.

EasyScript Plus™ RTase

Synthesize cDNA from complex RNA templates (i.e. secondary structures and high GC content) with abm's EasyScript™ Plus Reverse Transcriptase.

Engineered to perform under high temperatures (45°C - 55°C), abm's EasyScript™ Plus Reverse Transcriptase can synthesize full-length cDNA libraries from RNA templates up to 15kb in length. In addition, EasyScript Plus™ Reverse Transcriptase has outstanding proofreading ability due to the presence of a fidelity-enhancing subunit, thus making this RTase an excellent choice for whole genome sequencing.

Application

- Synthesizing cDNA from a ssRNA
- DNA primer extension
- Sequencing dsDNA
- Constructing cDNA library
- Constructing libraries for serial analysis for gene expression (SAGE)
- Synthesizing cDNA in rapid amplification of cDNA ends (3' & 5' RACE)
- Producing template for use in RT-PCR or real-time RT-PCR
- Labelling 3'-end of duplex DNA via end-filling reactions
- Generating probes for hybridization.

	Amplification Length	Active Temperature	Sensitivity	Proofreading	Suitable for complex DNA
EasyScript™	up to 9 kb	42°C	★★★★★	✓	
EasyScript™ Plus	up to 15 kb	45°C - 55°C	★★★★★	✓	✓

RNase H Inactivation Guarantees Longer cDNA Synthesis

Native MMLV RTase possesses significant RNase H activity which effectively degrades template RNA in RT-PCR reactions leading to reduced cDNA yield. abm's EasyScript™ RTase series has strategic mutations within their RNase H domains which abolish the degradation of RNA, resulting in substantially increased cDNA synthesis compared to RNase H+ RTase products offered by competitors. EasyScript™ has an elongation ability of 9 kb while EasyScript Plus™, due to its extreme processivity, can generate cDNA up to 15 kb in length. The elongation abilities of EasyScript™ and EasyScript Plus™ are demonstrated in Figure 1 and 2, respectively.

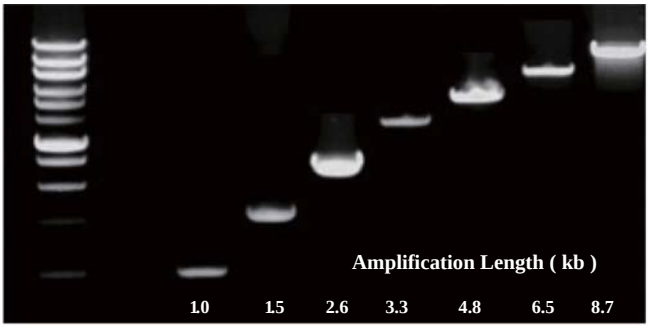


Figure 1: EasyScript™ Elongation Ability
PCR amplification using human cDNA synthesized with EasyScript™, followed by electrophoresis on a 1% agarose gel.

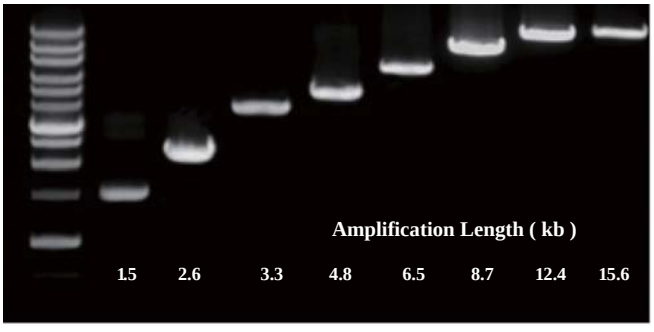


Figure 2: EasyScript Plus™ Elongation Ability
PCR amplification using human cDNA synthesized with EasyScript Plus™, followed by electrophoresis on a 1% agarose gel.

High Accuracy from Fidelity-Enhancing Subunit

Native RTases have notoriously low proofreading ability but abm has circumvented this problem with its new EasyScript™ and EasyScript Plus™, which have the highest accuracy rates when compared with other commercial RTases. Both EasyScript™ and EasyScript Plus™ contain a unique fidelity-enhancing subunit which drastically enhances accuracy in reverse transcription, making abm's RTases the most reliable on the market (Figure 3).

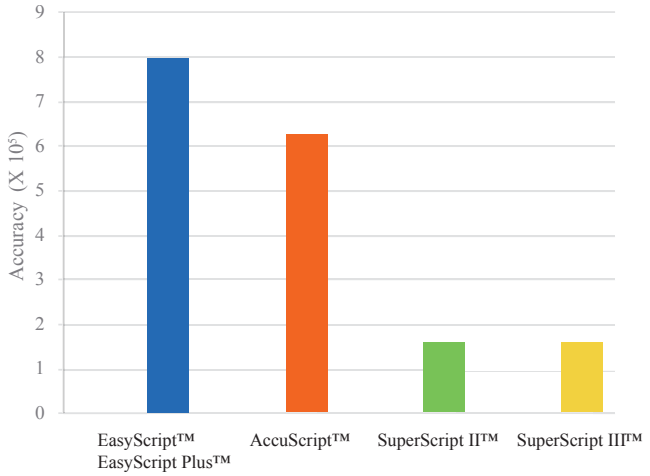


Figure 3: EasyScript™ RTase series Accuracy Rate
EasyScript™ RTases series have the highest accuracy rate compared to leading competitors. Accuracy rate = 1/error rate.

High Yield and Sensitivity

Template sensitivity is crucial for reverse transcription reactions and is paramount to the usability and success of an RTase application. EasyScript™ and EasyScript Plus™ have exceptional template sensitivity that ensures high yields of full length cDNA synthesis, even in cases of very low amounts of starting RNA template. These RTases have been strategically engineered to synthesize appreciable amounts of full-length single-stranded cDNA with as little as 0.1 pg of total starting RNA, as demonstrated in Figure 4.

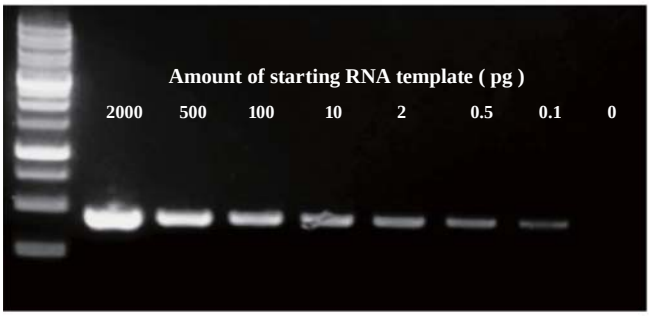


Figure 4: Sensitivity of EasyScript™ Reverse Transcriptase
PCR amplification using human cDNA synthesized with EasyScript™ with varying amounts of starting RNA (2000 pg - 0 pg), followed by electrophoresis on a 1% agarose gel.

First Strand cDNA Synthesis Yield

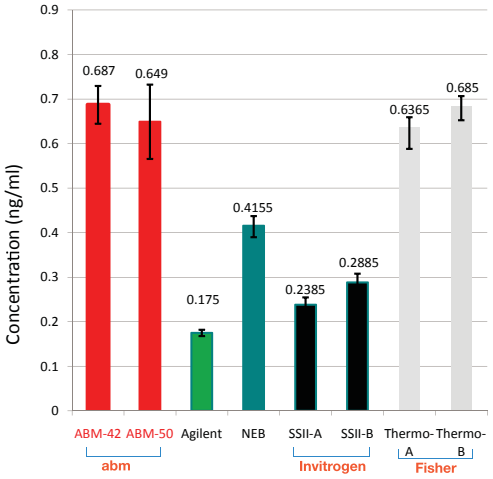


Figure 5: Data provided by a leading whole genome institure - BC Genome Science Center.
Result : Next Generation Enzyme design (abm's and Fisher's) shows superior performance over first generation enzymes as assayed by Qubit.

Accomplish RT in 15 minutes

Time is always of the essence when it comes to experiment design and set-up. abm's EasyScript™ and EasyScript Plus™ RTases allow you to achieve reliable and reproducible results in as little as 15 minutes.

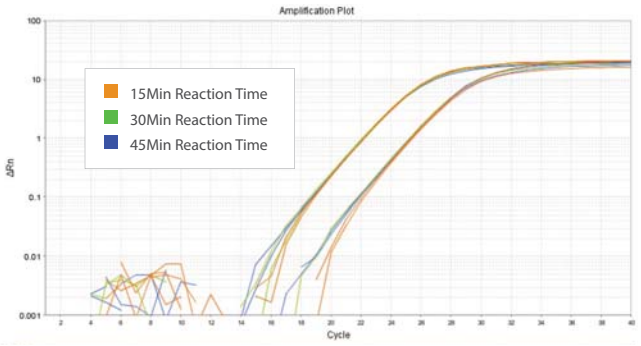


Figure 6 : 20 µl RT reactions (100 pg and 800 pg of RNA per reaction) were carried out for 15, 30, or 45 minutes. 1 µl of each RT product was then used directly as template for GAPDH amplification.

Reverse Transcriptases

G231	EasyScript RTase	(200U/µl)	5,000U
G232	EasyScript RTase	(200U/µl)	20,000U
G177	EasyScript Plus RTase	(200U/µl)	5,000U
G237	EasyScript Plus RTase	(200U/µl)	20,000U

		EasyScript™		EasyScript Plus™	
Part No.	**Components**	**G231**	**G232**	**G177**	**G237**
RT-1	EasyScript™ (200 U/µl)	25 µl	100 µl	-	-
RT-2	EasyScript Plus™ (200 U/µl)	-	-	25 µl	100 µl
RT-7	5X RTBuffer	150 µl	600 µl	150 µl	600 µl
Size		5,000U	20,000U	5,000U	20,000U

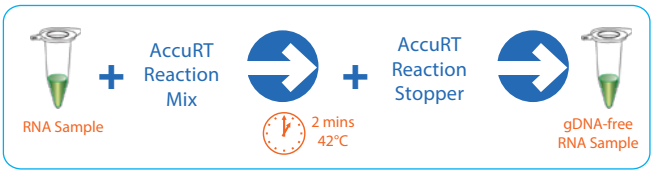
AccuRT Genomic DNA Removal Kit

abm's AccuRT Genomic DNA Removal Kit offers a quick and easy method to eliminate genomic DNA (gDNA) contamination in RNA samples.

The presence of genomic DNA in RNA preparations is often a significant problem for downstream applications. This contamination often leads to false-positive signals and misrepresentation of gene expression levels. This kit employs a brief reaction of your RNA sample with the enclosed Reaction Mix that will effectively remove gDNA without loss or degradation of RNA. The treated gDNA-free RNA is ready for any downstream application such as RT-PCR and qRT-PCR using abm's cDNA synthesis or RT-PCR reagents.

- Fast and easy procedure completed within 10 minutes
- Complete and effective genomic DNA removal without compromising RNA quality
- No heat inactivation required
- Compatible with various downstream applications

Simple, Efficient and Convenient Set-up



High Efficiency and Complete RNA Protection

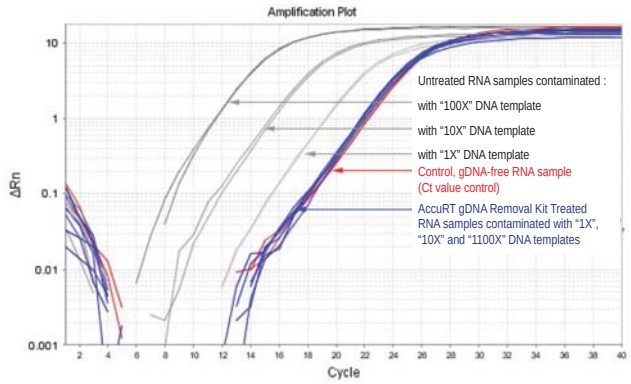


Figure 1: Efficient DNA removal in two-step RT-qPCR
Two-step RT-qPCR: 0.01 µg of pure total human RNA was mixed with serial-diluted human GAPDH qPCR product ("1X", "10X", and "100X" amounts); AccuRT treated, untreated and gDNA-free control samples (0.01 mg of pure total human RNA only) were reverse-transcribed in a 20 µl RT reaction. 1 µl of RT product was then used directly in qPCR; human GAPDH target was amplified.

G488	AccuRT Genomic DNA Removal Kit,	200 Rxns

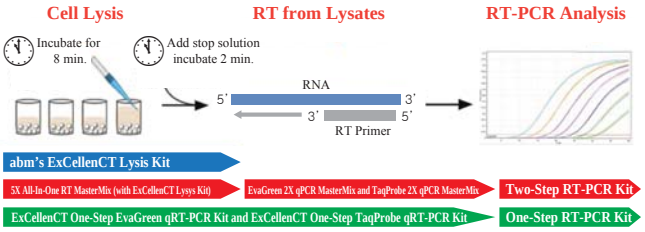
ExCellenCT Lysis Kit

The use of TRIzol® in gene expression studies involving routine RNA extraction often poses bio-hazard and health concerns to scientist and researchers. ExCellenCT Lysis Kit is the perfect solution to this problem.

ExCellenCT Lysis Kit is abm's unique and effective alternative method for RNA template extraction and preparation. RNA templates are extracted and processed directly from cultured cells for one-step or two-steps qRT-PCR in less than 15 minutes, unveiling reverse-transcription-ready RNA/cell lysate from cultured cells without the time-consuming and hazardous-chemicals-involved RNA extraction and purification steps. RNA templates generated are also gDNA free and can then be directly used as template in either a one-step qRT-PCR or a two-step qRT-PCR system. In addition, samples can be directly processed in culture wells (96 and 384 wells) for easy handling and high throughput, thus minimizing transfer error and potential sample loss.

Application

- Gene expression studies
- RNA preparation for RT
- mRNA detection



G915	ExCellenCT Lysis Kit,	25 Preps

5X All-In-One RT MasterMix

From RNA template to cDNA in just 15 minutes completely hassle-free.

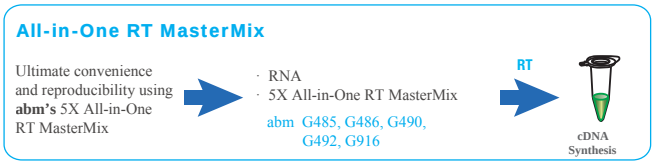
With abm's 5X All-In-One RT MasterMix, just add RNA and this optimized system will provide sensitive and reliable cDNA synthesis over a dynamic range of input RNA. The use of this MasterMix eliminates multiple component additions providing exceptional reproducibility and precision, in addition to offering the end-user ultimate convenience.

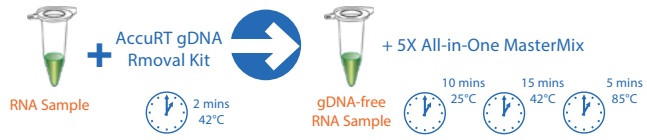
Key Features

- Reduction in handling errors with only 1 liquid transfer step
- Streamlined protocol suitable for high-throughput applications
- Simple set-up for any RNA template
- High reproducibility and excellent yield

Application

- Generation of templates for use in RT-PCR and qRT-PCR
- cDNA synthesis from ssRNA
- cDNA library construction
- Generation of probes for hybridization
- DNA primer extension





abm 5X All-in-One MasterMix (with AccuRT gDNA Removal Kit)

Perform cDNA synthesis by incubating the tube for either 15 mins (for qPCR) or 50 mins (for PCR) at 42°C.

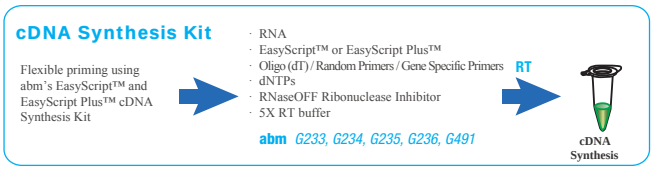
G485	5X All-In-One RT MasterMix	25 x 10 µl Rxns
G486	5X All-In-One RT MasterMix	100 x 10 µl Rxns
G490	5X All-In-One RT MasterMix	200 x 10 µl Rxns
G492	5X All-In-One RT MasterMix (with AccuRT Genomic DNA Removal Kit)	100 x 20 µl Rxns
G916	5X All-In-One RT MasterMix (with ExCellenCT Lysis Kit)	25 Preps, 100 x 20 µl Rxns

First-Strand cDNA Synthesis Kit

Choose your priming methods with abm's cDNA Synthesis Kit.

Key Features

- Maximal flexibility in priming – oligo(dT), random primers or gene-specific primers
- Robust cDNA synthesis from any RNA template
- High reproducibility and excellent yield



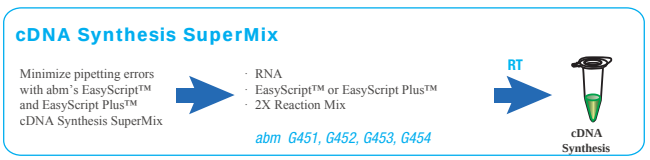
G233	EasyScript™ cDNA Synthesis Kit	25 x 20 µl Rxns
G234	EasyScript™ cDNA Synthesis Kit	100 x 20 µl Rxns
G235	EasyScript Plus™ cDNA Synthesis Kit	25 x 20 µl Rxns
G236	EasyScript Plus™ cDNA Synthesis Kit	100 x 20 µl Rxns
G491	EasyScript™ cDNA Synthesis Kit (with AccuRT Genomic DNA Removal Kit)	100 x 20 µl Rxns

First-Strand cDNA Synthesis SuperMix

Convenient and time-saving reaction set-up with abm's cDNA Synthesis SuperMix.

Key Features

- Streamlined protocol suitable for high-throughput applications
- Ease of use with a simple set-up
- Excellent cDNA yield



G451	EasyScript™ cDNA Synthesis SuperMix	25 x 20 µl Rxns
G452	EasyScript™ cDNA Synthesis SuperMix	100 x 20 µl Rxns
G453	EasyScript Plus™ cDNA Synthesis SuperMix	25 x 20 µl Rxns
G454	EasyScript Plus™ cDNA Synthesis SuperMix	100 x 20 µl Rxns

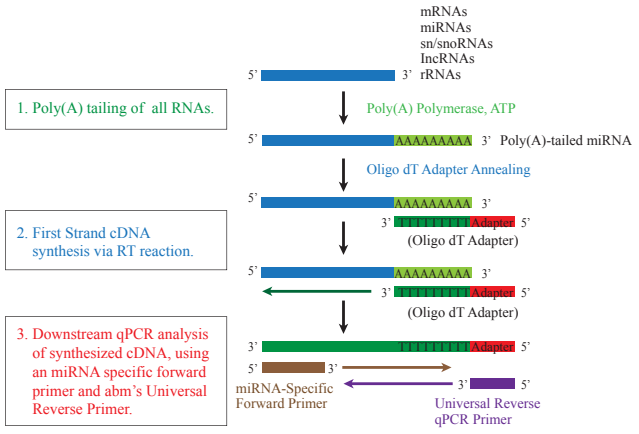
Total-Transcriptome cDNA Synthesis Kit

A complete RNA quantification by revealing all the different RNAs in a sample.

abm's Total-Transcriptome cDNA Synthesis kit provides all reagents necessary to generate high quality cDNA from all different kind of RNA in a sample such as mRNA, miRNA, and lncRNA. This is made possible by 3' poly(A)-tailing of RNAs via the use of **poly(A) polymerase.** Oligo d(T) adaptor and random primers then anneal onto the RNA template and facilitate the reverse transcription. **EasyScript Plus™ RTase** is a novel recombinant reverse transcriptase that exhibits much higher efficiency in the first-strand cDNA synthesis from RNA templates with secondary structures and high GC content. The EasyScript Plus™ RTase is engineered to perform under high temperatures (50°C - 55°C); facilitating the elimination of secondary structures associated with GC-rich RNA templates. The recombinant RNaseOFF Ribonuclease Inhibitor effectively protects RNA templates from degradation. Also the universal 3' reverse primer included in the kit can be coupled with any specific forward primer in downstream qPCR/PCR amplification.

Key Features

- Revealing all the RNAs in a human or mouse RNA sample
- A complete, comprehensive cDNA synthesis kit
- Including oligo dT adaptor and Universal reverse primer for high efficiency
- Including positive control assays for mRNA, miRNA, and lncRNA studies
- Robust cDNA synthesis from any RNA template
- High reproducibility and excellent yield



Total-Transcriptome cDNA Synthesis Kit Work Flow

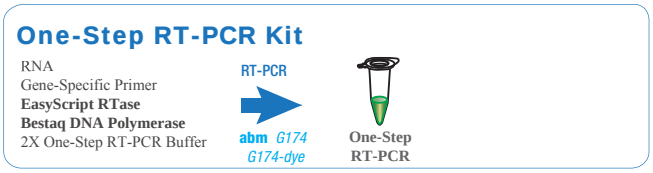
G904	Total-Reveal Comprehensive cDNA Synthesis Kit 25 Rxns
G905	Total-Reveal Comprehensive cDNA Synthesis Kit 100 Rxns

One-Step RT-PCR Kit

One reaction tube for RT and PCR now offers unparalleled sensitivity and efficiency.

With abm's One-Step RT-PCR Kit, you can streamline the procedure for reverse transcription and subsequent PCR in the same reaction tube, eliminating the need to change buffers and reducing the risk of contamination. This kit offers the end-user an efficient and easy alternative to the conventional "two-step" RT-PCR approach with extreme sensitivity, specificity and high product yield.

G174-dye buffer contains Cresol Red as an electrophoresis dye, with migration equivalent to 125 bp DNA fragment on an agarose gel.



G174	One-Step RT-PCR Kit	100 x 50 µl Rxns
G174-dye	One-Step RT-PCR Kit with dye	100 x 50 µl Rxns

Two-Step RT-PCR Kit

Convenient and time-saving reaction set-up with abm's Two-Step RT-PCR Kit.

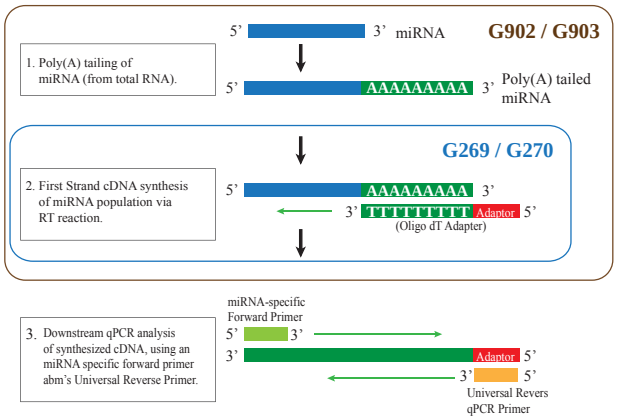
This highly efficient two-step RT-PCR kit consists of two main components: **EasyScript™ or EasyScript Plus™ cDNA Synthesis SuperMix and TaqPlus 2X PCR MasterMix with dye.**

		EasyScript™ Two-Step RT-PCR Kit		EasyScript Plus™ Two-Step RT-PCR Kit	
Part No.	**Components**	**G281**	**G282**	**G283**	**G284**
RT-1	EasyScript™ (200 U/µl)	25 µl	100 µl	-	-
RT-2	EasyScript Plus™ (200 U/µl)	-	-	25 µl	100 µl
RT-8	2X Reaction Mix	300 µl	1.2 ml	300 µl	1.2 ml
G014	2X PCR Taq Plus MasterMix	1 ml	4 ml	1 ml	4 ml
Size		25 rxns	100 rxns	25 rxns	100 rxns

G281	EasyScript™ Two-Step RT-PCR Kit	25 Rxns
G282	EasyScript™ Two-Step RT-PCR Kit	100 Rxns
G283	EasyScript Plus™ Two-Step RT-PCR Kit	25 Rxns
G284	EasyScript Plus™ Two-Step RT-PCR Kit	100 Rxns

miRNA cDNA Synthesis

The miRNA cDNA Synthesis Kit is a complete system for the efficient synthesis of first strand miRNA from total RNA templates. The kit utilizes a mutated recombinant M-MuLV Reverse Transcriptase which exhibits limited RNase H activity. The recombinant RNasin™ Ribonuclease Inhibitor, supplied with the kit effectively protects the RNA template from degradation. Besides the basic miRNA cDNA synthesis kit (G269/G270), customer also has the option to choose a miRNA cDNA synthesis kit with Poly(A) Polymerase Tailing (G902/G903). Both versions of abm's miRNA cDNA synthesis kits come along with oligo d(T) adapter, which anneals selectively onto the poly(A)-tailed miRNA. Universal reverse primers, included in miRNA profiling kit (MA003, MA004), contains the adaptor sequence and therefore they must be used on the cDNA generated by abm's miRNA cDNA synthesis kit. The first strand of miRNA's cDNA can be directly used as a template for the qPCR-based analysis of miRNA expression in a given sample. abm also has a complete library of miRNA primers for all the known miRNA sequences; abm is one of the very few companies in the world that provide industry-leading-quality miRNA profiling services with years of experience. All our primers have been extensively optimized for qPCR conditions and have been validated for their accuracy.



miRNA cDNA Synthesis Kit Work Flow

G269	miRNA cDNA Synthesis Kit	25 Rnxs
G270	miRNA cDNA Synthesis Kit	100 Rxns
G902	miRNA cDNA Synthesis Kit, W/ Poly(A) Polymerase Tailing	25 Rxns
G903	miRNA cDNA Synthesis Kit, W/ Poly(A) Polymerase Tailing	100 R

Cell Lysis / DNA & RNase Removal

G915	ExCellenCT Lysis Kit	25 Preps
G488	AccuRT Genomic DNA Removal Kit	200 Rxns
G028	DNase I	2000 U (1.0 ml)
G138	RNaseOFF Ribonuclease Inhibitor	4,000 U (100 µl)

Benchmark Quality for All Product Formats

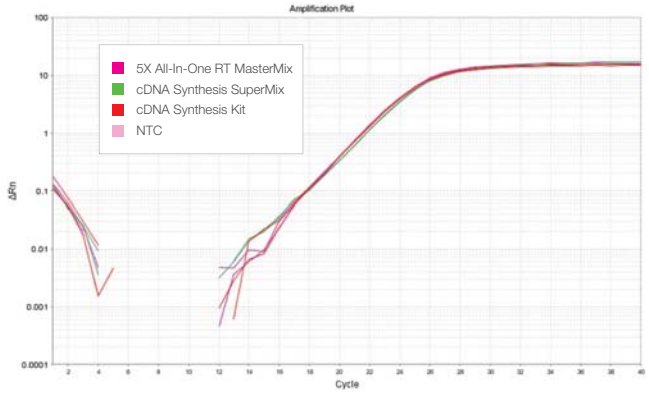


Figure 1 : 20 µl RT reactions (100 pg of RNA per reaction) were performed with various abm's RT products: cDNA Synthesis Kit, cDNA Synthesis SuperMix, and 5X All-In-One RT MasterMix.
1 µl of each RT product was then used directly as template for GAPDH amplification.

Minimal Interfering of qPCR

Reverse Transcriptase (RTase) is a well-known, potent inhibitor of PCR. A result of strategic protein engineering and buffer optimization, abm's EasyScript™ and EasyScript Plus™ RTases demonstrate the least amount of inhibition to downstream qPCR applications when compared to RTases from other leading brands.

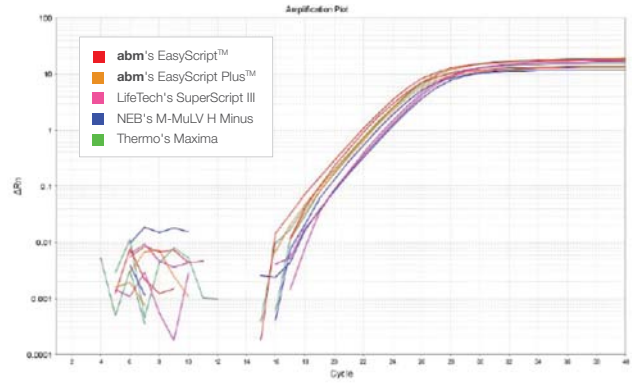


Figure 2: With **abm** EvaGreen qPCR MasterMix

Figure 2 : 20 µl RT reactions (100 pg of Human RNA per reaction) were performed with various RTases available on the market. 1 µl of each RT product was then used directly as template for GAPDH amplification using qPCR MasterMixes from various leading brands.

EvaGreen 2X qPCR MasterMix

Guaranteed high-performance real-time PCR using abm's EvaGreen 2X qPCR MasterMix.

abm's EvaGreen 2X qPCR MasterMix provides all ingredients necessary for quantitative PCR in a premixed and optimized format. Available with the option of ROX or fluorescein as the internal passive reference dye, abm's EvaGreen 2X qPCR MasterMix offers unparalleled performance in sensitivity, signal-to-noise ratio, and complete elimination of primer dimers.

Key Features

- Enable streamlined protocol in a simple reaction set-up
- Allow accurate quantification of a variety of gene targets
- Reduce pipetting steps to minimize the risk of contamination
- Compatible with most real-time PCR instruments

EvaGreen Express 2X qPCR MasterMix

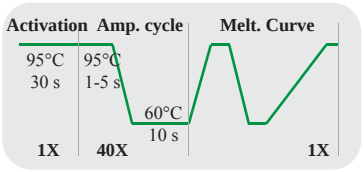
abm's EvaGreen Express 2X qPCR MasterMix provides all ingredients necessary for extremely rapid quantitative PCR in a premixed and optimized format.

The use of abm's TaqFast DNA Polymerase in EvaGreen Express 2X qPCR MasterMix shortens the reaction time to about 1/5 of standard qPCR time. Available with the option of ROX or fluorescein as the internal passive reference dye, abm's EvaGreen Express 2X qPCR MasterMix offers unparalleled performance in sensitivity, signal-to-noise ratio, and complete elimination of primer dimers.

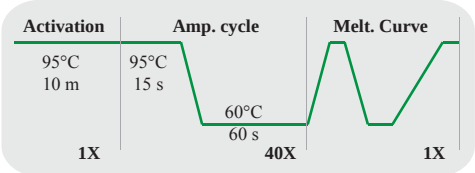
Key Features

- Extremely rapid activation – only 30 seconds!
- Ultra-fast qPCR thermal cycling – 10 second annealing/elongation time
- Streamlined protocol with a simple reaction set-up
- Ultra-fast quantification of a variety of gene targets
- Reduces pipetting steps to minimize the risk of contamination
- Compatible with most real-time PCR instruments.

EvaGreen Express 2X qPCR



EvaGreen 2X qPCR
Standard protocol



One-Step EvaGreen qRT-PCR

Convenient real-time RNA quantification in one-step.

abm's One-Step EvaGreen qRT-PCR Kit uses a combination of high-quality enzymes in a proprietary buffer system to deliver precise and accurate sample analysis in a high-throughput format. This kit offers ultimate convenience to the end-user in addition to guaranteed performance with respect to high sensitivity, superb signal-to noise ratio, and complete elimination of primer dimmers. The One-Step EvaGreen qRT-PCR Kit utilizes a mutated recombinant M-MuLV Reverse Transcriptase which exhibits limited RNase H activity. RNaseOFF Ribonuclease Inhibitor and a proprietary RTase additive are blended into the RTase's storage buffer to protect RNA template from degradation and to improve the fidelity during reverse transcription. The chemically modified Hotstart Taq polymerase, included in our MasterMix, significantly reduces non-specific PCR amplification observed with regular Taq polymerase. The user-friendly one-step/single tube setup minimizes the chance of introducing human-error and contamination. Overall, abm's One-Step EvaGreen qRT-PCR Kit demonstrates market-leading sensitivity, efficiency, and reliability.

Key Features

- Streamlined protocol in a simple single-tube reaction set-up
- High-quality, full-length cDNA from as little as 0.01pg of RNA
- Fully optimized for detection of low-copy genes
- Simple set-up for any RNA template
- Reduces pipetting steps to minimize the risk of contamination

One-Step qRT-PCR Kit

RNA
Gene-Specific Primer
qRT-PCR Enzyme Mix
EvaGreen qPCR Mastermix

qRT-PCR
abm *G471-X*

One-Step
qRT-PCR

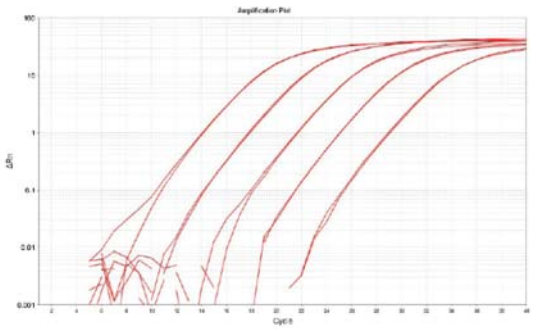


Figure 1 : 20 µl One-Step qRT-PCR reactions (20 ng, 2 ng, 200 pg, 20 pg or 2 pg of RNA per reaction) were carried

ExCellenCT One-Step EvaGreen qRT-PCR

Extracting and preparing gDNA-free RNA templates directly from cultured cells to be applied as template for One-Step qRT-PCR, with G471 One-Step EvaGreen qRT-PCR MasterMix.

abm's ExCellenCT Lysis Kit is an unique and effective alternative method to provide RNA templates that are extracted and processed directly from cultured cells in less than 15 minutes, unveiling reverse-transcription-ready RNA/cell lysate from cultured cells without the time-consuming and hazardous-chemicals-involved RNA extraction and purification steps. RNA templates generated are also gDNA free and can then be directly used as template to be applied in One-Step qRT-PCR.

The One-Step EvaGreen qRT-PCR system contains all necessary reagents for both reverse transcription and PCR amplification to occur in a single qPCR reaction tube, including a qRT-PCR Enzyme Mix and an EvaGreen qPCR MasterMix. abm's proprietary qRT-PCR Enzyme Mix contains stabilizers and enhancers to optimize the two reactions in a real-time "single step". Coupled together, this complete system provides the ultimate convenience in generating consistent, reproducible, and accurate results from 10-10^5 cells.

EvaGreen qRT-PCR ordering information

EvaGreen 2X qPCR MasterMix 4 x 1.25ml (500 rxns)	**EvaGreen Express 2X qPCR MasterMix** 4 x 1.25ml (500 rxns)	**One-Step EvaGreen qRT-PCR Kit** 100 rxn (20 µl/rxn)	**ExCellenCT One-Step EvaGreen qRT-PCR Kit** 25 Preps, 100 x 20 µl rxns	**qPCR Instruments**
MasterMix-R	**MasterMix-ER**	**G471-R**	**G917-R**	- ABI® 7000, 7300, 7700, 7900, 7900HT, StepOnePlus™, StepOne™, OpenArray, PRISM™ Sequencing Detection Series - Biometra TOptical - Fluidigm BioMark™ - Wafergene SmartChip System - TianLong TL998 System
MasterMix-LR	**MasterMix-EL**	**G471-LR**	**G917-LR**	- ABI® 7500 Viia™, QuantStudio - BioGene InSyte™ - Illumina Eco - Stratagene® Mx3000, Mx3005, Mx4000 - Analytikjena qTower Series
MasterMix-iC	**MasterMix-EC**	**G471-iC**	**G917-iC**	- BioRad® iCycler®, iQ™5, MyiQ™
MasterMix-S	**MasterMix-ES**	**G471-S**	**G917-S**	- BioRad® CFX96, CFX384, Chromo4™, CFX Connect™, Opticon 2, MiniOpticon™ - Roche LightCycler® (2.0, 1.5, 480, 1536, Nano) - BioGene SynChron™ - Corbett Rotor-gene® (3000, 6200, 62H0, 6500, 65H0, 6600) - Eppendorf® Realplex 4 - Eppendorf Mastercycler® realplex (s, 4 , 4s), Pro (S, 384), Nexus (gradient, eco, flat) - Cepheid SmartCycler®, GeneXpert - Idaho LightScanner® (24, 32), RapidCycler®2, R.A.P.I.D (LT, LT Food), RAZOR EX, JBAIDS - Qiagen Rotor-Gene™ (Q, 6000) - Takara Dice™ - Thermo Scientific PikoReal - DNA-Technology DT96, DTlite, DT-322 - Bioer LineGene (3310/3320, K FQD-48A, I, II, 9620, 9640, 9660, 9680) -Bioneer Exicycler™

TaqProbe 2X qPCR MasterMix

Ultimate sensitivity in real-time PCR with abm's TaqProbe 2X qPCR MasterMix.

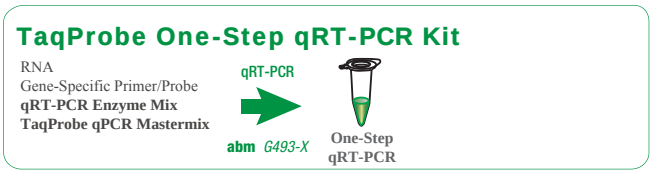
TaqProbe 2X qPCR MasterMix is designed for high throughput quantitative PCR using **TaqMan® probe**-based chemistry. Available with the option of ROX or fluorescein as the internal passive reference dye, abm's TaqProbe 2X qPCR MasterMix offers superb performance in sensitivity and signal-to-noise ratio. The multiplex formulation supports quantitative amplification and detection of up to four targets simultaneously with consistent and reliable results.

Key Features

- Enable streamlined protocol in a simple reaction set-up
- Allow accurate quantification of a variety of gene targets
- Reduce pipetting steps to minimize the risk of contamination
- Compatible with most real-time PCR instruments

One-Step TaqProbe qRT-PCR Kit

Convenient real-time RNA quantification in one EASY step.



ExCellenCT One-Step TaqProbe qRT-PCR Kit

Extracting and preparing gDNA-free RNA templates directly from cultured cells to be applied as template for One-Step qRT-PCR, with G493 One-Step TaqProbe qRT-PCR MasterMix.

TaqProbe qRT-PCR ordering information

TaqProbe 2X qPCR MasterMix 4 x 1.25ml (500 rxns)	One-Step TaqProbe qRT-PCR Kit 100 rxn (20 µl/rxn)	ExCellenCT One-Step TaqProbe qRT-PCR Kit 25 Preps, 100 x 20 µl rxns	qPCR Instruments
MasterMix-P	**G493-P**	**G918-P**	- ABI® 7000, 7300, 7700, 7900, 7900HT, StepOnePlus™, StepOne™, OpenArray, PRISM™ Sequencing Detection Series - Biometra TOptical - Fluidigm BioMark™ - Wafergene SmartChip System - TianLong TL998
MasterMix-PL	**G493-PL**	**G918-PL**	- ABI® 7500 Viia™, QuantStudio - BioGene InSyte™ - Illumina Eco - Analytikjena qTower Series - Stratagene® Mx3000, Mx3005, Mx4000
MasterMix-PC	**G493-PC**	**G918-PC**	- BioRad® iCycler®, iQ™5, MyiQ™
MasterMix-PS	**G493-PS**	**G918-PS**	- BioRad® CFX96, CFX384, Chromo4™, CFX Connect™, Opticon 2, MiniOpticon™ - Roche LightCycler® (2.0, 1.5, 480, 1536, Nano) - Corbett Rotor-gene® (3000, 6200, 62H0, 6500, 65H0, 6600) - Eppendorf® Realplex 4 - Eppendorf Mastercycler® realplex (s, 4 , 4s), Pro (S, 384), Nexus (gradient, eco, flat) - Cepheid SmartCycler®, GeneXpert - Idaho LightScanner® (24, 32), RapidCycler®2, R.A.P.I.D (LT, LT Food), RAZOR EX, JBAIDS - Qiagen Rotor-Gene™ (Q, 6000) - Takara Dice™ - Bioer LineGene (3310/3320, K FQD-48A, I, II, 9620, 9640, 9660, 9680) -Bioneer Exicycler™
MasterMix-PM			•Any qPCR instrument that supports multiplex reactions.

qPCR Lentivirus Titration(Titer) Kit

The Lentivirus Titration kit provides a fast and simple method for titrating lentivirus. This kit employs a quick RNA extraction step and determines viral RNA using qRT-PCR. The whole assay could be completed in only 2 hours. The titer primers supplied in this kit are designed for all HIV-1 based vectors detection. With the help of the on-line titer calculator, titration of any lentiviral preparation could be easier than ever before.

- No RNA purification - saves time and eliminates inaccuracy
- Ready-to-use reagent mix - reduces variability
- qRT-PCR in one step - more sensitive and accurate than other methods
- No NTC amplification - our titration kit is the only one on the market that completely eliminates NTC signal due to our unique primer design. Similar kits from other companies all give NTC amplification, which compromise accuracy for viral titration

LV900	qPCR Lentivirus Titration(Titer) Kit	100 Rxns

Titer Calculator

Average Ct of STD1

Average Ct of STD2

Average Ct of Sample

Calculate | Reset Sample | Reset All

Titer of Sample

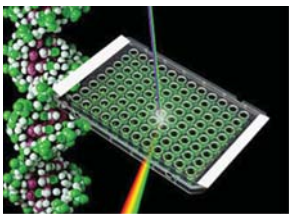
Note: STD1, STD2 are provided in the Lentivirus qPCR Titer Kit.

https://www.abmgood.com/High-Titer-Lentivirus-Calculation.html

Opti-Seal PCR/qPCR Films & Plates

Opti-Seal PCR/qPCR Films

G496	Opti-Seal PCR and Storage Films	100 Films/Box
G495	Opti-Seal qPCR and Storage Films	100 Films/Box



Opti-Seal qPCR 96 well Plates

Cat. No.	Product Name		Compatible Machine
G909	Opti-Seal qPCR Full-skirted plate (Low profile)	10 Plates/Box	Bio-Rad-CFX96™, Opticon™, Opticon2™, Chromo4™ Eppendorf-Mastercycler® EP Realplex
G912	Opti-Seal qPCR Full-skirted plate (Low profile)	100 Plates/Case	
G914	Opti-Seal qPCR Roche 480 (Low profile)	10 Plates/Box	Roche LightCycler 480
G913	Opti-Seal qPCR Roche 480 (Low profile)	100 Plates/Case	
G907	Opti-Seal qPCR Semi-skirted plate (Low profile)	10 Plates/Box	ABI-7500 Fast, 7900HT Fast 96-well Block, ViiA7™ StepOne Plus™
G910	Opti-Seal qPCR Semi-skirted plate (Low profile)	100 Plates/Case	
G908	Opti-Seal qPCR Semi-skirted plate (Standard)	10 Plates/Box	ABI-7000, 7003, 7500, 7700, 7900, ViiA7™ ABI-7900HT Standard 96-well Block Bio-Rad-iCycler™, iQ™4/5, MyiQ, MyiQ2 Eppendorf-Mx4000®, Mx3000P®, Mx3005P™
G911	Opti-Seal qPCR Semi-skirted plate (Standard)	100 Plates/Case	

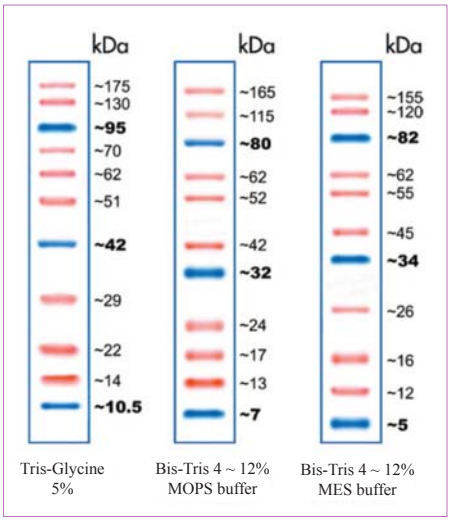
For Western Blotting

G032	1X Protein Lysis Buffer	5.0 ml
G031	5X Protein Loading Buffer	3.0 ml
G075	ECL Western Blotting Detection Reagents	2 x 100 ml
B502	Kodak X-Ray Film 5 x 7 inch	100 Sheets
B503	Kodak X-Ray Film 8 x 10 inch	100 Sheets
B501	Nitrocellulose Membrane, 0.22 µm, Precut	30sheets, 6 x 8.5cm
B500	Nitrocellulose Membrane, 0.22 µm, Roll	3m x 30cm Roll
G135E	Protease Inhibition Cocktail with EDTA	1.0 ml
G135	Protease Inhibitor Cocktail	1.0 ml
G015	Horseradish Peroxidase	100 mg
G025	DTT	3 x 1.0 ml
G034	PMSF 100 mM in isopropanol;	3 x 1.0 ml

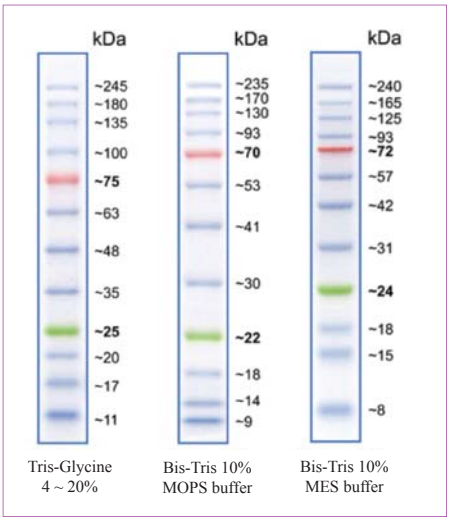
ELISA & IHC Reagents

G445	ELISA ABTS Substrate for HRP	250 ml
G450	ELISA ABTS Substrate for HRP	1.0 L
G443	ELISA TMB Substrate for HRP	250 ml
G448	ELISA TMB Substrate for HRP	1.0 L
G444	ELISA Ultrasensitive TMB Substrate for HRP	250 ml
G449	ELISA Ultrasensitive TMB Substrate for HRP	1.0 L
G447	BCIP-NBT Dye for IHC	250 ml
G446	Fast Red Violet Dye for IHC	250 ml

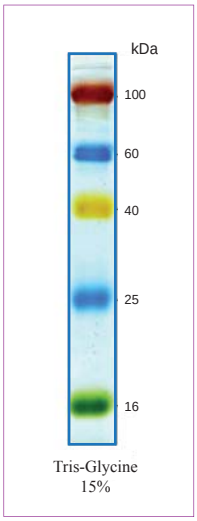
Opti-Protein Markers



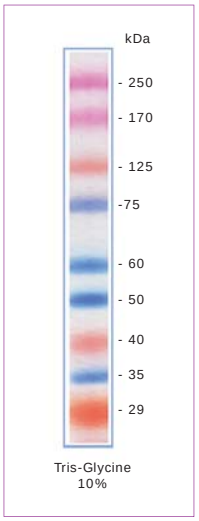
Opti-Protein Marker



Opti-Protein XL Marker



Opti-Protein Express Marker



Opti-Protein Precision Marker

G252	Opti-Protein Marker	10kDa-175kDa, 11 bands	500 µl/100 loads
G266	Opti-Protein XL Marker	10kDa-245kDa, 12 bands	500 µl/100 loads
G494	Opti-Protein Express Marker	16kDa-100kDa, 5 bands	500 µl/100 loads
G622	Opti-Protein Precision Marker	29kDa-250kDa, 9 bands	500 µl/100 loads

Ni-IDA Agarose Beads

G250	Ni-IDA Agarose Resins	5.0 ml
G251	Ni-IDA Agarose Resins	25 ml
G253	Ni-IDA Agarose Resins	100 ml
G239	Ni-IDA Agarose 1ml Columns	8 x 1.0 ml
G240	Ni-IDA Agarose 5ml Columns	5 x 5.0 ml

Glutathione Agarose Beads

G241	Glutathione Agarose Resins	10 ml
G289	Glutathione Agarose Resins	25 ml

IgG Purification

G483	Protein G Agarose Resin	5.0 ml
G484	Protein G Agarose Resin	25 ml
G243	Protein A Agarose Resins	5.0 ml
G244	Protein A Agarose Resins	25 ml
G245	Protein A Agarose Column	1 x 1.0 ml
G616	Mouse Antibody Isotyping Kit	10 Tests
G617	Mouse Antibody Isotyping Kit	20 Tests
G618	Rat Antibody Isotyping Kit	10 Tests
G619	Rat Antibody Isotyping Kit	20 Tests
G481	Recombinant Protein G	10 mg
G482	Recombinant Protein G	100 mg
G479	Recombinant Protein A	10 mg
G480	Recombinant Protein A	100 mg

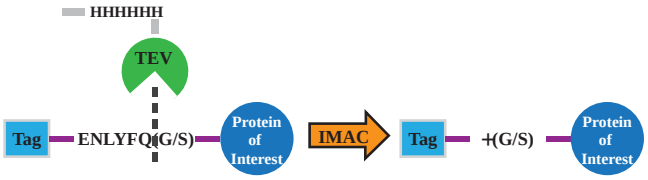
Purified Tag Proteins

000033P	GFP Purified Protein	50 µg
000035P	RFP Purified Protein	500 µg

TEV Protease

abm's TEV Protease is an improved version of the site-specific protease from Tobacco Etch Virus (TEV). abm's TEV Protease has enhanced activity, stability and site-specificity when compared to the native enzyme. High specificity cleavage occurs between the Gln and Gly (or Ser) of the seven amino acid recognition sequence Glu-Asn-Leu-Tyr-Phe-Gln-Gly/Ser (ENLYFQ(G/S)) in the fusion protein of interest. TEV Protease is active over a wide range of temperatures (4 ~ 30°C; optimum 30°C) and pHs (5.5 ~ 9.0). At the optimal cleavage temperature for TEV Protease, 99% cleavage is often achieved in 1-2 hours. Owing to the presence of a 6X-His tag at the N-terminus, abm's TEV Protease can be easily removed after the cleavage reaction by affinity chromatography with Ni-IDA Agarose Beads (abm Cat No. G250).

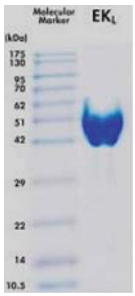
- Cleavage of tags from recombinant fusion proteins containing a TEV recognition site
- One step affinity removal of His-tagged TEV after cleavage



E027	TEV Protease	100 µl

Enterokinase

The Enterokinase included in this kit is the catalytic subunit of the native hologenzyme, and is highly active and specific for cleaving fusion proteins with the recognition sequence, DDDDK, in the interdomain linker. Because this product is produced from mammalian expression system, it is highly glycosylated and shows extremely specific cleavage activity compared to other E. coli produced Enterokinases. The purified Enterokinase behaves as a 47kD band under denaturing and reducing conditions as visualized on SDS-PAGE.



- No residues left from recognition sequence after cleavage.
- Produced in mammalian expression system.
- Allows removal of tags after use in purification.

G699	Enterokinase Cleavage Enzyme	100 units

Tag Antibodies

Cat No.	Products (100µg/100µl)	Tested Applications
G020	His Tag Antibody (Mouse Monoclonal)	WB, IS and IP
G162	His Tag Antibody (Rabbit Polyclonal)	ELISA, WB, IP, IF, IHC
G036	HA Tag Antibody (Mouse Monoclonal)	WB, IS and IP
G166	HA Tag Antibody (Rabbit Polyclonal)	WB
G096	GFP Tag Antibody (Mouse Monoclonal)	WB, ELISA, Dot Blot, IPP, Immunostaining
G160	GFP Tag Antibody (Chicken Polyclonal)	WB and IP
G095	GFP Tag Antibody (Goat polyclonal)	WB, ELISA, IHC, IP, IF Microscopy
G018	GST Tag Antibody (Mouse Monoclonal)	WB, IS and IP
G019	Myc Tag Antibody (Mouse Monoclonal)	WB, IS and IP
G077	Myc Tag Antibody (Rabbit Polyclonal)	ELISA, WB
G189	V5 Tag Antibody (Mouse Monoclonal)	WB, IHC and ELISA
G466	Anti-V5 Tag Antibody (Rabbit Polyclonal)	WB, ELISA
G190	V5 Tag Antibody (Goat Polyclonal)	WB, ELISA and IHC
G191	D-Tag Antibody (Mouse Monoclonal)	WB, IS and IP
G188	D-Tag Antibody (Rabbit Polyclonal)	WB, IS and IP
G093	RFP Tag Antibody (Mouse Monoclonal)	WB, IHC and IP
G167	RFP Tag Antibody (Rabbit Polyclonal)	ELISA, WB, IHC
G079	MBP Tag Antibody (Rabbit Polyclonal)	WB, IP and IHC
G148	MBP Tag Antibody (Chicken Polyclonal)	Immunohistochemistry
G192	VSVG Tag Antibody (Goat Polyclonal)	WB, IP and IHC
G163	YFP Tag Antibody (Mouse Monoclonal)	WB, ELISA, Dot Blot, IPP, Immunostaining
G164	CFP Tag Antibody (Mouse Monoclonal)	WB, ELISA, Dot Blot, IPP, Immunostaining

Loading Controls

Cat No.	Products (100µg/100µl)	Tested Applications
G041	Anti-GAPDH (Mouse Monoclonal)	WB and IF
Y058203	Anti-GAPDH (Rabitt Polyclonal)	Peptide ELISA,WB
G043	Anti-β-Actin (Mouse Monoclonal)	WB, ELISA and Dot blot.
G046	Anti-β-Actin (Rabbit polyclonal)	WB and IP
G094	Anti-α-Tubulin (Mouse Monoclonal)	WB and IF
G098	Anti-β-Tubulin (Mouse Monoclonal)	WB and IF

Horseradish Peroxidase Conjugated

Cat. No.	Product (250 µg / each)	
SH011	anti-Goat IgG	[H&L] [Donkey]
SH012	anti-Goat IgG	[H&L] [Rabbit]
SH019	anti-Human IgG	[H&L] [Donkey]
SH020	anti-Human IgG	[H&L] [Goat]
SH021	anti-Human IgG	[H&L] [Rabbit]
SH022	anti-Mouse IgG	[H&L] [Donkey]
SH023	anti-Mouse IgG	[H&L] [Goat]
SH024	anti-Mouse IgG	[H&L] [Rabbit]
SH025	anti-Rabbit IgG	[H&L] [Donkey]
SH026	anti-Rabbit IgG	[H&L] [Goat]
SH027	anti-Rat IgG	[H&L] [Donkey]
SH028	anti-Rat IgG	[H&L] [Goat]
SH029	anti-Sheep IgG	[H&L] [Donkey]
SH030	anti-Sheep IgG	[H&L] [Rabbit]

Fluorescein Conjugated

Cat. No.	Product (250 µg / each)	
SF011	anti-Goat IgG	[H&L] [Donkey]
SF012	anti-Goat IgG	[H&L] [Rabbit]
SF019	anti-Human IgG	[H&L] [Donkey]
SF020	anti-Human IgG	[H&L] [Goat]
SF021	anti-Human IgG	[H&L] [Rabbit]
SF022	anti-Mouse IgG	[H&L] [Donkey]
SF023	anti-Mouse IgG	[H&L] [Goat]
SF024	anti-Mouse IgG	[H&L] [Rabbit]
SF025	anti-Rabbit IgG	[H&L] [Donkey]
SF026	anti-Rabbit IgG	[H&L] [Goat]
SF027	anti-Rat IgG	[H&L] [Goat]
SF028	anti-Rat IgG	[H&L] [Donkey]
SF029	anti-Sheep IgG	[H&L] [Donkey]
SF030	anti-Sheep IgG	[H&L] [Rabbit]

Alkaline Phosphatase Conjugated

Cat. No.	Product (250 µg / each)	
SA011	anti-Goat IgG	[H&L] [Donkey]
SA012	anti-Goat IgG	[H&L] [Rabbit]
SA019	anti-Human IgG	[H&L] [Donkey]
SA020	anti-Human IgG	[H&L] [Goat]
SA021	anti-Human IgG	[H&L] [Rabbit]
SA022	anti-Mouse IgG	[H&L] [Donkey]
SA023	anti-Mouse IgG	[H&L] [Goat]
SA024	anti-Mouse IgG	[H&L] [Rabbit]
SA025	anti-Rabbit IgG	[H&L] [Donkey]
SA026	anti-Rabbit IgG	[H&L] [Goat]
SA027	anti-Rat IgG	[H&L] [Donkey]
SA028	anti-Rat IgG	[H&L] [Goat]
SA029	anti-Sheep IgG	[H&L] [Donkey]
SA030	anti-Sheep IgG	[H&L] [Rabbit]

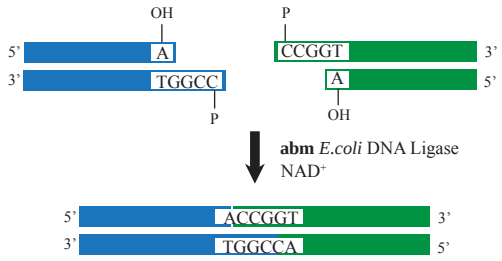
Agarose Conjugates

Cat. No.	Product (5mg / each)	
SR001	anti-Goat IgG	[H&L] [Rabbit]
SR002	anti-Mouse IgG	[H&L] [Goat]
SR003	anti-Rabbit IgG	[H&L] [Goat]
SR004	anti-Rat IgG	[H&L] [Goat]
SR005	anti-Human IgG	[H&L] [Goat]
SR006	anti-Protein A	[Goat]

E. coli DNA Ligase

E.coli DNA Ligase is an NAD+-dependent enzyme that catalyzes the formation of a phosphodiester bond between cohesive 3′-hydroxyl and 5′-phosphoryl termini of double-stranded DNA (dsDNA). This enzyme is also active on nicked DNA but is not effective for the formation of DNA-RNA or RNA-RNA hybrids.

- Ligation of dsDNA with cohesive termini
- cDNA cloning of products from second strand cDNA synthesis experiments
- Alternative to T4 DNA Ligase when blunt-end ligation is not required
- For ligation of blunt-end fragments use T4 DNA Ligase (abm Cat. No. G467)



E007	*E. coli* DNA Ligase	1000 U (100 µl)

T4 DNA Ligase

T4 DNA Ligase catalyzes the formation of a phosphodiester bond between the proximal 3'- hydroxyl and 5'- phosphate ends of adjacent, nicked nucleotides of dsDNA, dsRNA or DNA-RNA hybrids. Known to proceed via an adenylated intermediate, this endergonic reaction can be utilized to join both cohesive-ended and blunt-ended termini.

- Cloning of restriction fragments
- Attaching double-stranded oligonucleotide linkers or adaptors to DNA
- Site-directed mutagenesis
- Nick repair of duplex DNA, RNA or DNA-RNA hybrids
- Self-circularization of linear DNA

G467	T4 DNA Ligase	200 U (200 µl)

T4 RNA Ligase 1 (ssRNA Ligase)

T4 RNA Ligase 1 (ssRNA Ligase) catalyzes the ligation of a single stranded 5' phosphoryl-termini donor to a 3' hydroxyl-termini nucleic acid acceptor through the formation of a 3'→5' phosphodiester bond, through hydrolysis of ATP to AMP and PPi . Substrates for T4 RNA Ligase I include single-stranded RNA and DNA as well as dinucleoside pyrophosphates.

- Ligation of a ssRNA and DNA.
- Labeling of the 3' ends of RNA with 5'-[32P]pCp.
- Synthesis of single-stranded oligonucleotides

E010	T4 RNA Ligase 1 (ssRNA Ligase)	100 µl (10U/µl)

T4 RNA Ligase 2 (dsRNA Ligase)

T4 RNA Ligase 2 (dsRNA Ligase) is far more active in joining nicked ends of double stranded RNA over single stranded RNA and requires an adjacent 5′ phosphate and 3′ OH for successful ligation to occur. The enzyme can also ligate dsRNA to dsDNA via the 3′ OH of RNA and 5′ phosphate of DNA to form a double stranded hybrid.

- Ligate nicks in dsRNA.
- Suitable for ligating the 3' OH terminus of RNA to the 5' phosphate terminus of DNA to form a DNA/RNA hybrid.

E011	T4 RNA Ligase 2 (dsRNA Ligase)	100 µl (10U/µl)

T4 RNA Ligase 2 (Truncated)

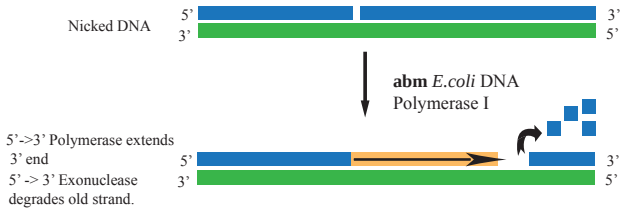
T4 RNA Ligase 2 (truncated) is a double-point mutant of T4 RNA Ligase 2 which specifically ligates the preadenylated 5′ end of DNA or RNA to the 3′ OH end of RNA. The enzyme requires pre-adenylated linkers and does not use ATP for ligation. This enzyme has been used for optimized linker ligation for high-throughput sequencing library construction of small RNA, advantages include minimal background.

E012	T4 RNA Ligase 2 (Truncated)	100 µl (200U/µl)

E. coli DNA Polymerase I

E.coli DNA Polymerase I is a DNA-dependent DNA polymerase with intrinsic 3'→5' and 5'→3' exonuclease activities. Nick translation is facilitated by this enzyme due to the removal of nucleotides ahead of the growing chain via 5′→3′ exonuclease activity.

- Generation of labeled DNA probes by nick translation
- Second-strand synthesis of cDNA

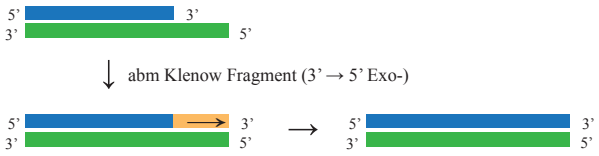


G469	E. coli DNA Polymerase I	500 U (100 µl)

Klenow Fragment (3'→5' Exo-)

Klenow Fragment (3'→5' Exo-) is the large fragment of *E. coli* DNA Polymerase I which retains polymerase activity but lacks 5'→3' exonuclease activity and has mutations that effectively abolish the inherent 3'→5' exonuclease activity.

- Dideoxy DNA sequencing of single- or double-stranded DNA templates
- cDNA second-strand synthesis
- Generate single-stranded DNA probes using random primers
- Site-directed DNA mutagenesis using synthetic oligonucleotides



E038	Klenow Fragment (3'→5' Exo-)	500 U (100 µl)

DNA Polymerase I Large (Klenow) Fragment

DNA Polymerase I Large (Klenow) Fragment is the large fragment of E. coli DNA Polymerase I (abm Cat. No. G469). The Klenow Fragment retains the DNA-dependent DNA polymerase activity of the E. coli DNA Polymerase I but lacks the 5'→3' exonuclease activity. With its inherent 3'→5' exonuclease activity, Klenow possesses the polymerization fidelity of the holoenzyme without degrading 5'-termini.

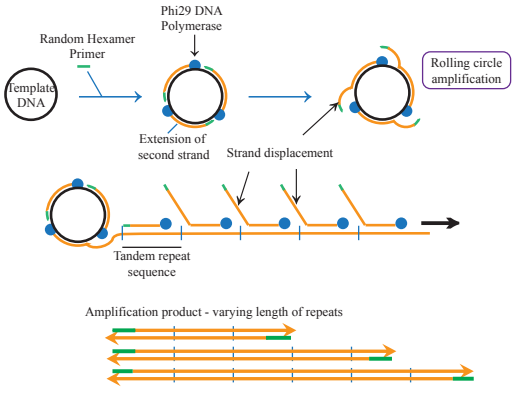
- DNA blunting by filling-in 5'-overhangs with unlabeled or labeled dNTPs
- cDNA second-strand synthesis
- Generate single-stranded DNA probes using random primers
- Site-directed DNA mutagenesis using synthetic oligonucleotides
- Dideoxy DNA sequencing of single- or double-stranded DNA templates
- 3'→5' exonuclease activity can blunt a 3'-overhang

E013	DNA Polymerase I Large (Klenow) Fragment	500 U (100 µl)

Phi29 DNA Polymerase

Phi29 DNA Polymerase is a highly processive polymerase which exhibits a strong strand-displacement function. These functions allow for highly efficient isothermal amplification of circular or linear DNA templates via rolling circle amplification (RCA), multiple displacement amplification (MDA) and/or whole genome amplification (WGA). Phi29 DNA Polymerase has extremely high fidelity due to its inherent 3'→5' exonuclease activity and can amplify from very small amounts of starting templates.

- Rolling circle amplification (RCA)
- Multiple displacement amplification (MDA)
- Whole genome amplification (WGA)
- DNA template preparation for sequencing
- Protein-primed DNA amplification

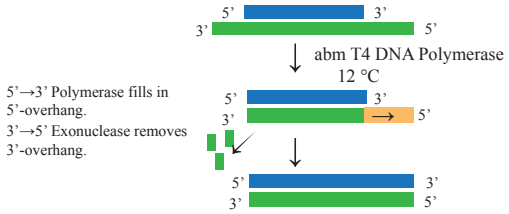


E014	Phi29 DNA Polymerase	1000 U (100 µl)

T4 DNA Polymerase

T4 DNA Polymerase catalyzes the 5'→3' synthesis of DNA from a single stranded, primed DNA template. This high fidelity enzyme also has potent 3'→5' exonuclease activity but lacks 5'→3' exonuclease function. T4 DNA Polymerase is the ideal choice for creating blunt ended DNA by removing 3'-overhangs or 5'-overhang filling, and is also useful for second strand DNA synthesis in site-specific mutagenesis.

- Generates blunt end DNA by filling in 5'-overhangs or/and removing 3'-overhangs
- High fidelity due to strong 3'→5' exonuclease activity
- Synthesis of labeled DNA probes by the replacement reaction
- Site-specific mutagenesis via primer extension from oligonucleotides

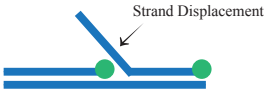


E005	T4 DNA Polymerase	500 U (100 µl)

Bst DNA Polymerase, Large Fragment

Bst DNA Polymerase, Large Fragment is a DNA polymerase from *Bacillus stearothermophilus* that is modified so that it retains its 5'→ 3' DNA polymerase activity while lacking the intrinsic 5'→ 3' exonuclease domain. This polymerase also has strand displacement capabilities making it an ideal candidate for isothermal amplification.

- Isothermal amplification
- DNA sequencing of high GC DNA
- Sequencing from very low amounts of template DNA
- DNA strand displacement amplification

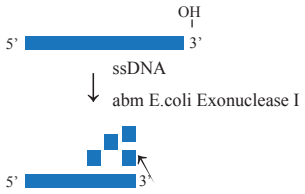


E039	Bst DNA Polymerase, Large Fragment	1600 U (200 µl)

Exonuclease I, *E. coli*

Exonuclease I, E.coli catalyzes the removal of nucleotides from single-stranded DNA in the 3'→5' direction, releasing deoxyribonucleoside 5'-monophosphates and leaving 5'-terminal dinucleotides intact. Hydrolysis cannot proceed if the 3'-terminus is phosphorylated.

- Removal of single-stranded primer oligonucleotides from:
  - PCR mixtures for applications involving sequencing or labelling
  - from nucleic acid mixtures
- Assaying for the presence of single-stranded DNA with a 3'-hydroxyl terminus

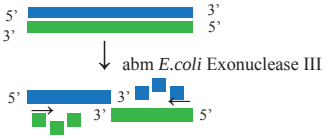


E015	Exonuclease I, E. coli	2000 U (100 µl)

Exonuclease III, *E. coli*

Exonuclease III, E.coli digests duplex DNA in the 3′→5′ direction from nicked DNA, blunt end DNA, 3′-recessed ends, or 3′-overhangs of less than four bases, and yields nucleoside 5′-phosphates. The DNA degradation proceeds at a uniform rate and produces stretches of ssDNA on the opposite strand. Under defined reaction conditions, the reaction can yield predictable and reproducible digestion results. Conditions such as temperature, ionic strength, template DNA sequence and the Exonuclease III to DNA ratio need to be optimized to suit specific applications to achieve the desired excision rate. Exonuclease III, E.coli is also capable of degrading DNA from 3′-phosphate ends due to intrinsic 3′-phosphatase activity. The enzyme also has apurinic DNA endonuclease activity as well as RNase H activity.

- Generation of intermediates for site-directed mutagenesis
- Preparation of strand-specific radio labelled probes
- Preparation of single-stranded DNA
- Preparation of single-stranded templates for dideoxy-sequencing of DNA
- Creation of unidirectional deletions in DNA fragments

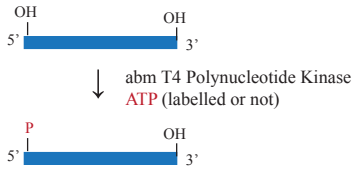


E016	Exonuclease III, E. coli	10,000 U (100 µl)

T4 Polynucleotide Kinase

T4 Polynucleotide Kinase catalyzes the transfer of the γ-phosphate from ATP to the 5´-hydroxyl terminus of double and single-stranded RNA and DNA, oligonucleotides or nucleoside 3´-monophosphates. The enzyme is also capable of catalyzing the removal of 3´-phosphoryl groups from 3´-phosphoryl polynucleotides, deoxynucleoside 3´-monophosphates and deoxynucleoside 3´- diphosphates.

- Labelling 5'-termini of DNA or RNA to be used as:
  - primers for DNA sequencing
  - primers for PCR
  - probes for hybridization
  - probes for transcript mapping
  - markers for gel electrophoresis
- Addition of 5'-phosphates to oligonucleotides, PCR products, and DNA or RNA prior to ligation
- Removal of 3´-phosphoryl groups



E006	T4 Polynucleotide Kinase	1000 U (100 µl)

Inorganic Pyrophosphatase, Thermostable

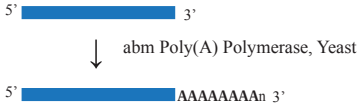
T4 Polynucleotide Kinase catalyzes the transfer of the γ-phosphate from ATP to the 5´-hydroxyl terminus of double and single-stranded RNA and DNA, oligonucleotides or nucleoside 3´-monophosphates. The enzyme is also capable of catalyzing the removal of 3´-phosphoryl groups from 3´-phosphoryl polynucleotides, deoxynucleoside 3´-monophosphates and deoxynucleoside 3´- diphosphates.

E021	Inorganic Pyrophosphatase, Thermostable	100 µl (2U/µl)

Poly(A) Polymerase, Yeast

Poly(A) Polymerase, Yeast catalyses the template independent addition of adenosine residues onto the 3' ends of polyribonucleotides. The use of ATP as a substrate leads to poly(A) tailing whereas substitution of cordycepin-5'-triphosphate (3'-dATP) for ATP results in addition of a single dA residue to the 3'-termini of the RNA. Neither ADP nor dATP can be used as substrates for this enzyme. Poly(A) Polymerase from yeast has been shown to be more effective at oligonucleotide-labeling and poly(A) tailing of long RNA templates than Poly(A) Polymerase from *E. coli*.

- Labelling of RNA with ATP or cordycepin
- Poly(A) tailing of RNA for cloning or affinity purification
- Increasing translation of RNA transferred into eukaryotic cells



E017	Poly(A) Polymerase, Yeast	100 U (100 µl)

T7 RNA Polymerase

T7 RNA Polymerase is a DNA dependent RNA polymerase that catalyzes the synthesis of RNA in the 5´→ 3´ direction only in the presence of its cognate T7 phage promoter sequence. T7 RNA Polymerase has high specificity for the T7 phage promoter and will not recognize SP6 or T3 RNA Polymerase promoter sequences.

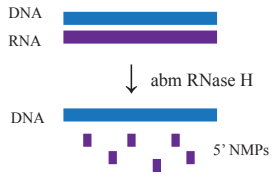
- Synthesis of RNA transcripts for hybridization probes
- Synthesis of RNA for in vitro translation
- Synthesis of biologically active mRNA
- Generate large amounts of labelled or non-labelled RNA

E041	T7 RNA Polymerase	100 µl (5000 U)

RNase H, *E. coli*

RNase H (Ribonuclease H), *E. coli* is an endoribonuclease that specifically hydrolyzes the phosphodiester bonds of RNA strands in RNA-DNA hybrids. This enzyme cleaves the 3'-O-P-bond of RNA and generates 3' hydroxyl and 5' phosphate products. RNase H does not digest single-stranded or double-stranded DNA and RNA.

- Removal of mRNA prior to synthesis of second strand cDNA
- Removal of the poly(A) sequences from mRNA in the presence of oligo (dT)
- Directed cleavage of RNA

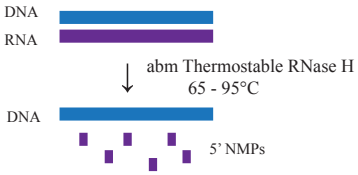


E018	RNase H, E. coli	500 U (100 µl)

Thermostable RNase H

Thermostable RNase H (Ribonuclease H) is an endoribonuclease that specifically hydrolyzes the phosphodiester bonds of RNA strands in RNA-DNA hybrids. Unlike *E. coli* RNase H which is inactivated at temperatures above 55°C, Thermostable RNase H can withstand much higher temperatures. These higher temperatures allow for higher hybridization stringency for RNA-DNA heteroduplexes resulting in more specific hydrolysis of RNA. Thermostable RNase H has optimal activity above 65°C and is active up to 95°C making it useful for a broad range of applications.

- High-stringency hybrid selection and mapping of mRNA structure
- Removal of mRNA prior to synthesis of second strand cDNA
- Removal of the poly(A) sequences from mRNA in the presence of oligo (dT)
- Directed cleavage of RNA

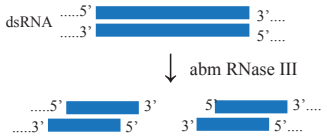


E008	Thermostable RNase H	500 U (100 µl)

RNase III, *E. coli*

RNase III, *E.coli* is an endoribonuclease that specifically digests dsRNA into dsRNA fragments of 12-15 base pairs that have two or three nucleotide 3´-overhangs with 5' phosphate and 3' hydroxyl termini.

- dsRNA digestion to short dsRNA fragments
- Useful for RNA processing, maturation and structure studies
- Directed cleavage of RNA
- siRNA preparation for RNA interference in mammalian cells



E020	RNase III, E.coli	100 U (100 µl)

RNase A

- RNA removal from plasmid DNA preparations
- RNA removal during DNA isolation
- RNA sequence analysis
- RNase protection assays

G117	RNase A	25 mg

RNaseOFF Ribonuclease Inhibitor

RNaseOFF Ribonuclease Inhibitor specifically inhibits common ribonucleases (RNases), including RNase A, B and C, with high affinity. This enzyme is a useful additive in PCR or RT-PCR as it safe-guards RNA against potential RNase contamination without inhibiting polymerase activity. This robust version of RNase inhibitor has improved resistance to oxidation over the highly oxidation-sensitive human RNase inhibitor. RNaseOFF Ribonuclease Inhibitor is stable even under very low concentrations of DTT(< 1 mM), making it the best choice for ultimate RNA protection.

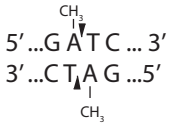
- Protection of RNA during:
  - RT-PCR - Quantitative, real-time RT-PCR - cDNA synthesis
  - In vitro transcription, translation and coupled transcription/translation
  - RNA isolation
- Preparation of RNase-free antibodies
- Contamination-sensitive experiments

G138	RNaseOFF Ribonuclease Inhibitor	4,000 U (100 µl)

DpnI

The DpnI restriction enzyme digests DNA at GmeA↓TC sites, requiring N6-methylation of the adenine residue for activity. DNA purified from a dam+ strain will be a substrate for DpnI due to the adenine methylation. DpnI cleaves hemi-methylated dam sites 60 X more slowly than fully methylated.

- Molecular cloning
- Site directed mutagenesis
- Restriction site mapping
- Genotyping
- Southern Blot
- SNP
- Restriction fragment length polymorphism (RFLP)

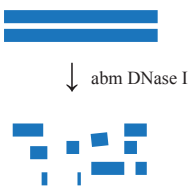


E026	DpnI	2000 U (100 µl)

DNase I

Deoxyribonuclease I (DNase I; EC 3.1.21.1) is a non-specific endonuclease that catalyzes the cleavage of phosphodiester bonds in single/double-stranded DNA, chromatin, and RNA-DNA hybrids. DNase I cleaves DNA to release di-and/or oligonucleotide (5'-phosphorylated and 3'-hydroxylated) end-products.

- Removes DNA from protein preparations and RNA samples
- Mediates nick translation
- Generates random fragments for dideoxy sequencing
- Degrade template DNA following in vitro transcription
- Mediate DNase I foot-printing

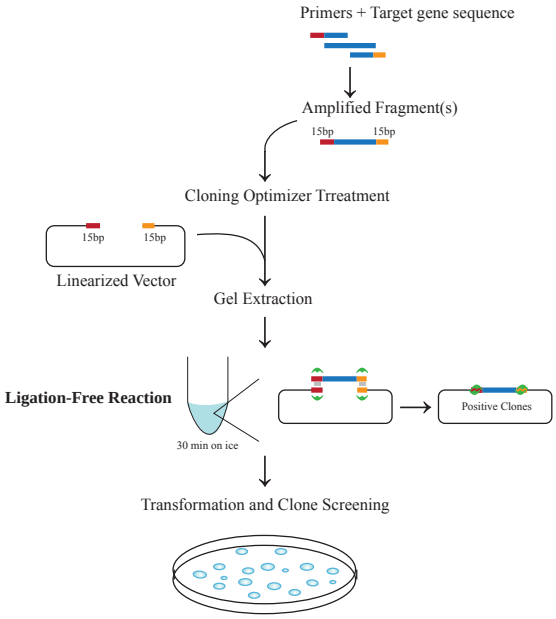


G028	DNase I	2000 U (1.0 ml)

Ligation-Free Cloning Kit

The Ligation-Free Cloning kit is a versatile system to meet the demands of the routine and most challenging cloning projects. The progressive design has eliminated the requirement for compatible ends and unique restriction sites within the vector and inserts to be cloned. At the foundation of Ligation-Free Cloning technology is abm's proprietary Ligation-Free Enzyme Mix which reliably facilitates conjugation of up to 8 DNA inserts (PCR-generated sequences) and a linearized vector by recognizing a 15 bp overlap region at both ends. This 15 bp overlap can be engineered by designing primers for amplification of your desired sequences to create inserts free from any redundant or unwanted base pairs. To eliminate the possibility of mutations associated with PCR amplification, scientists at abm have developed a DNA Polymerase with the highest proof-reading capability thus making this system the most reliable on the market.

- Multiple fragment cloning and assembly.
- Cloning of any insert into any location of a chosen vector.
- Complete elimination of the dependence on availability of restriction sites, phosphatase treatment and ligation.
- Inserts free from any redundant or unwanted base pairs.
- Save over 50% on reagent costs in comparison to other products available on the market.



E001	Ligation-Free Cloning Kit	25 Reactions
E002	Ligation-Free Cloning Kit	100 Reactions

DNA End Repair Kit

DNA End Repair Kit is designed to convert DNA fragmented by nebulisation, acoustic shearing, or nucleases into blunt ended DNA with 5´-phosphates and 3´-hydroxyl ends.
This kit is provided as individual enzymes to meet the customer's needs and to provide maximum efficiency and flexibility in DNA sample preparation. The repaired DNA end product can subsequently be converted to DNA having 3´dA tails using abm's dA Tailing Kit (Cat. No. E009) or be used directly for blunt end cloning or blunt ended adaptor ligation.

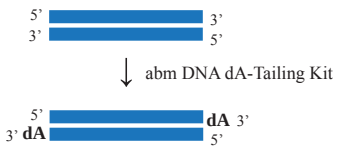
- End repair of 1 - 5 µg of fragmented DNA.
- RNA-Seq library construction.
- Downstream preparation for next generation sequencing.
- Blunt-end ligation into plasmid, cosmid, fosmid or BAC vectors.

G477	DNA End Repair Kit	25 Reactions

DNA dA-Tailing Kit

The DNA dA-Tailing Kit efficiently adds a non-template dAMP (dA) to the 3' end of a blunt-ended DNA fragment. This incorporated 3'-dA prevents concatemer formation and prepares the DNA fragment for subsequent ligation of adaptors or cloning vectors that have complementary 3'-dT overhangs. The Klenow Fragment (3´→ 5´ Exo-) in this kit adds the 3'-dA via its DNA polymerase activity. This enzyme lacks 5'→3' exonuclease activity and has mutations that effectively abolish the inherent 3'→5' exonuclease activity, thus preventing degradation of this 3'-dA. This kit has been optimized to prepare compatible overhangs for the next step of DNA sample preparation for next generation sequencing. The Klenow Fragment (3´→ 5´ Exo-) enzyme is also available as a stand-alone enzyme (Cat. No. E038).

- DNA sample preparation
- dA-Tailing of 1 - 5 µg of blunt ended DNA



E009	DNA dA-Tailing Kit	25 Reactions

ProClone™ Competent Cells

ProClone™ Competent Cells are high-efficiency, chemically competent DH5α (*E. coli*) cells that are optimized for use with abm's versatile range of expression vectors. Transformation efficiency greater than 1x10^6 cfu/µg can be achieved using abm's expression vectors, which are typically 3 to 4-fold larger in size and contain more complex genetic elements than the standard pUC19 plasmid. Reduced recombination and highly transformation efficiency make ProClone™ Competent Cells the premier choice for both routine and challenging subcloning projects.

- Transformation efficiency: >1x10^6 cfu/µg with abm's expression vectors (>10kb in size).
- Ideal for routine plasmid amplification.
- Reduces recombination and improves yield and quality of plasmid DNA prepared from minipreps; can be sequenced directly.
- Not Suitable for preparing unmethylated DNA.

E003	ProClone™ Competent Cells	5ml (4x1.25ml)

Cloning Optimizer

Cloning Optimizer consists of a proprietary enzyme that can completely eliminate background colonies when cloning. Treatment of PCR amplified DNA with this innovative optimizer will remove the trace amounts of plasmid template DNA that remain after PCR. Cloning Optimizer eliminates non-linearized template plasmids that cause false-positive colonies.

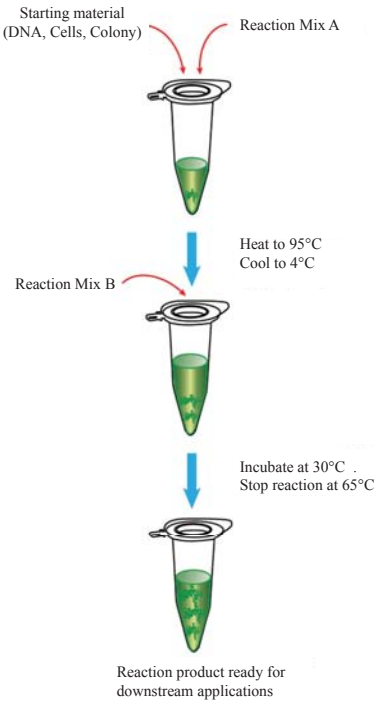
- Optimizes cloning efficiency
- Reduces false-positive colonies when cloning

E004	Cloning Optimizer	200 µl

In vitro DNA Amplification Kit

The *In vitro* DNA Amplification Kit now provides end users with a faster and more efficient technique for high yield DNA amplification from minimal starting template. With a simple set up and short handling time, this has now become the method of choice for any application requiring high throughput DNA amplification. The hassle-free protocol eliminates the requirement for mini prep DNA isolation, thus significantly reducing the cost and time required to obtain your amplified product from the reaction. Applications of this technology include (but are not limited to) whole genome amplification, DNA library construction, SNP genotyping and *in vitro* cloning of lethal DNA.

- High throughput DNA amplification
- Whole Genome amplification
- DNA library construction
- SNP genotyping
- *In vitro* cloning of lethal DNA
- Sequencing
- Restriction enzyme digestions
- Rapid colony/single cell screening



E031	In vitro DNA Amplification Kit	100 Rxns

E. coli Single-Stranded Binding Protein

E022	E. coli Single-Stranded Binding Protein	100 µl (1mg/ml)

Extreme Thermostable Single-Stranded Binding Protein

ET SSB (Extreme Thermostable Single-Stranded DNA Binding Protein) is a single-stranded DNA binding protein isolated from a hyperthermophilic microorganism, which remains fully active after incubation at 95°C for 60 minutes. Due to the extreme thermostability, ET SSB can be used in applications that require extremely high temperature conditions, such as nucleic acid amplification and sequencing.

- Nucleic acid amplification and sequencing.

E023	Extreme Thermostable Single-Stranded Binding Protein	100 µl

RecA Protein, *E. coli*

RecA Protein helps promote homologous recombination, is a multifunctional DNA-binding protein, integral role in both homologous recombination and postreplicative DNA repair mechanisms.in the presence of ATP, RecA promotes the strand exchange of single-strand DNA fragments with homologous duplex DNA The reaction has three distinct steps:
i) RecA polymerizes on the single-strand DNA,
(ii) the nucleoprotein filament binds the duplex DNA and searches for a homologous region,
(iii) the strands are exchanged..

- Displaecment loop Site directed mutagenesis.

E024	RecA Protein, E. coli	100 µl (1mg/ml)

T4 Gene 32 Protein

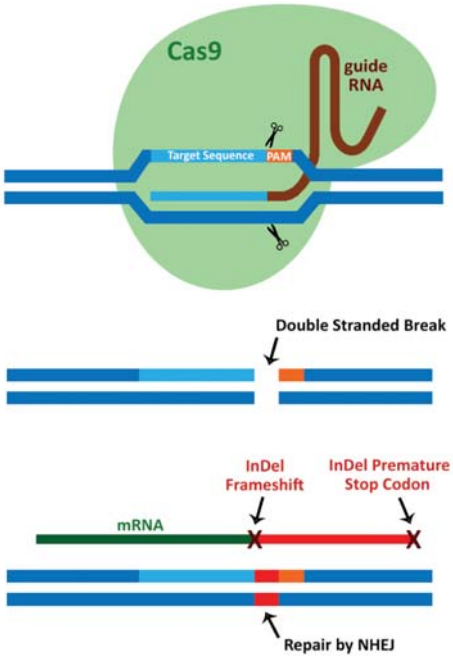
T4 Gene 32 Protein is a single-stranded DNA (ssDNA) binding protein which is required for T4 bacteriophage replication, recombination and repair. T4 Gene 32 Protein binds cooperatively and stoichiometrically to ssDNA effectively stabilizing it. This protein enhances DNA synthesis activities, including PCR amplification and DNA sequencing.

- Increases yield and processivity of reverse transcription
- Increases yield and specificity of PCR
- Improves restriction enzyme digestion

E040	T4 Gene 32 Protein	100 µl (1mg/ml)

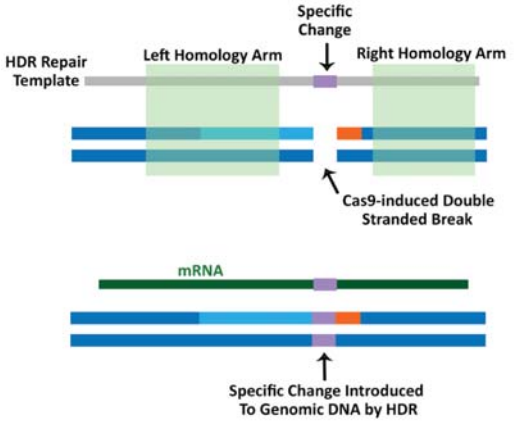
Cas9, a Flexible and Versatile Genome Editing Tool

The iCRISPR system allows for highly specific genomic disruption and replacement. This simple and robust system requires co-expression of two distinct components: (1) an exonuclease, Cas9, and (2) a target-specific single guide RNA (sgRNA). Cas9 expression in the target cell or host is achieved by lentiviral vector transfection, lentivirus transduction, or adenovirus transduction. Once the sgRNA finds the target sequence in the genome, the Cas9 nuclease cleaves both strands of the genomic DNA, creating a double stranded break which upon repair can result in an InDel frameshift or premature stop codon.



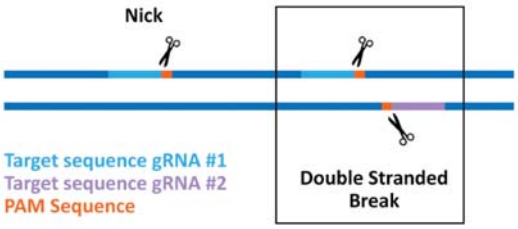
Homology Directed Repair (HDR) with Cas9 Nuclease

In addition to the Non-Homologous End Joining (NHEJ) pathway, cells are able to perform DNA repair by Homology Directed Repair (HDR), which can be exploited to introduce nucleotide modifications to genomic DNA. A DNA repair template containing the desired sequence is normally transfected into the cell along with the sgRNA/Cas9 and must have a high degree of homology to the sequence immediately upstream and downstream of the double stranded break. The specific change will be permanently introduced into the genomic DNA after HDR of the double stranded break induced by the Cas9 nuclease. This can also be achieved with the single stranded break induced by the modified Cas9 nickase.



Cas9 Nickase for Enhanced Specificity and Accuracy

The Cas9 nuclease has been modified into a "nickase" so that one of its catalytic domains is inactive, resulting in a single stranded nick instead of a double stranded break at the target site on the genomic DNA. This modification reduces off-target effects in the event that the guide RNA (gRNA) imperfectly binds to an undesired DNA site because not one, but two gRNAs located in close proximity (<20 nucleotides) on opposite strands of the genomic DNA are required in order to create the desired double stranded break. An undesired single stranded nick in the genomic DNA can be quickly repaired by the Homology Directed Repair (HDR) pathway using the other intact strand as the template.



K008	Cas9 Nuclease Protein	50 pmol (50 µl)
K009	Cas9 Nuclease Protein	250 pmol (250 µl)

CAS9 Type	Product Type
Nuclease (wild-type)	Lentiviral vector
	Lentivirus
	Adenovirus
Nickase (modified)	Lentiviral vector
	Lentivirus
	Adenovirus

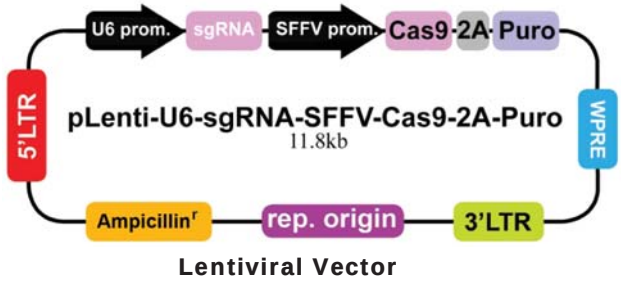
Genome-wide sgRNA Libraries at Your Fingertips!

The Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR)/Cas9 system allows for highly specific genome editing. Guided by a target-specific single guide RNA (sgRNA), the Cas9 nuclease will unwind the genomic DNA duplex and cleave both strands upon recognition of the target sequence by the sgRNA. The resulting double stranded break is repaired by the Non-Homologous End Joining (NHEJ) pathway, disrupting the open reading frame of the targeted gene.

We offer genome-wide iCRISPR sgRNA libraries for targeting any human, mouse, or rat gene with the use of lentiviral vectors or ready-to-use lentiviruses and adenoviruses.

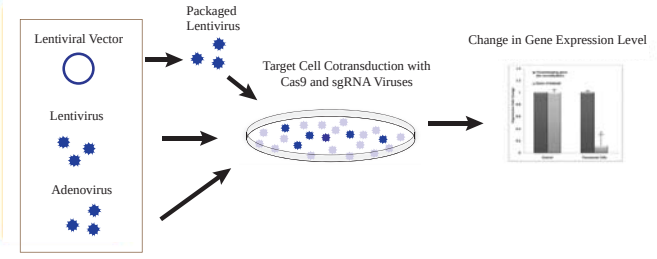
Our lentiviral iCRISPR sgRNA vectors and viruses are provided as individual constructs or in a set of 3 to allow for flexibility in experimental setup. They can be used separately or pooled together to achieve optimal gene knockout for your system.

Our iCRISPR sgRNA adenoviruses are useful for non-integrating, highly efficient genome editing in a wide range of target cells, especially cell types that are harder to transduce.



Lentiviral Vector

Avaiable from abm

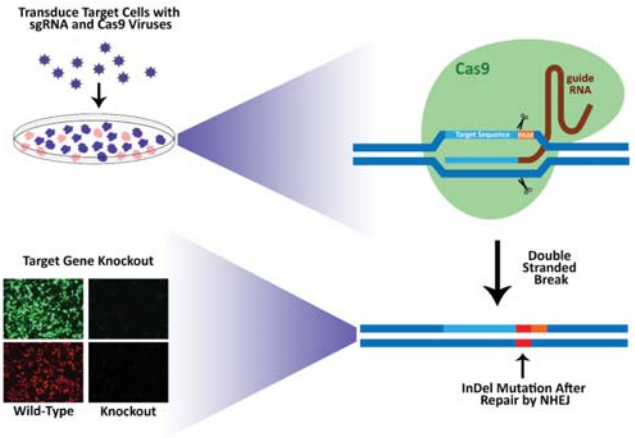


iCRISPR sgRNA Format	Product Type
Individual sgRNA	Lentiviral vector
	Lentivirus
	Adenovirus
Set of 3 sgRNA	Lentiviral vector
	Lentivirus

iCRISPR Custom Services

iCRISPR Custom Knockout Services

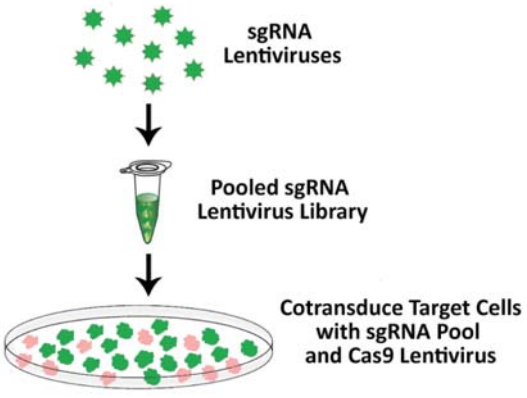
With this highly customized service, we can knockout any gene in any cell line. All you have to do is send us your desired target cells and the species, gene name, and accession number of the gene to be knocked out. The successfully genome-edited cells will be shipped back to you after strict quality control and verification of gene knockout.



C208	iCRISPR Stable Knockout Cell Line Generation Service

iCRISPR Custom Targeted Lentiviral sgRNA Library

Knockout up to 100 target genes with a single custom targeted sgRNA lentiviral pool. This custom product can be tailored to your specific experiments and is especially useful for the knockout of gene families and pathways. The pooled lentiviral vector constructs and pre-packaged lentivirus will be provided. All you need to do is provide your target gene list with the species, gene name, and accession number of the genes to be included in the sgRNA pool.



C209	CRISPR Custom Targeted Lentiviral sgRNA Library

DNAfectin™ Transfection Reagent

DNAfectin™ 2100 Transfection Reagent is a unique formulation of multiple polycations and liposomes that enable highly efficient and effective DNA transfection of eukaryotic cells. DNAfectin™ is the best transfection reagent for including difficult-to-transfect, suspension, and primary cells. This transfection reagent is perfect for any of your transfection needs.

G2100	DNAfectin™ 2100 Transfection Reagent	1.0 ml

DNAfectin™ Plus Transfection Reagent

Transfection made easy!

DNAfectin™ Plus Transfection Reagent offers a simple protocol that does not require the removal of serum or culture medium, resulting in less variability and low risk of contamination. This powerful nanoparticle-based formulation enables the achievement of higher transfection efficiencies and lower toxicity compared to other types of reagents.

- Simple Protocol: No culture medium changes and compatible with serum, resulting in less variability and low risk of contamination.
- Proven Performance: Out-competes other reagents in the transfection of a broad range of primary cells.
- Minimal Toxicity: The ideal choice for sensitive cellular analysis applications.

G2500	DNAfectin™ Plus Transfection Reagent	1.0 ml

RNAifectin™ Transfection Reagent

Especially developed for the efficient transfection of eukaryotic cells with RNAi oligo's. This transfection reagent is perfect for any of your RNAi transfection needs.

G073	RNAifectin™ Transfection Reagent	1.0 ml

Calciumfectin™ Mammalian

The Calciumfectin™ Mammalian Transfection Reagent Kit provides high-quality reagents suitable for both transient and stable transfections of mammalian cells.

G099	Calciumfectin™ Mammalian Transfection Reagent Kit (100 transfections)

Lentifectin™ Transfection Reagent

Lentifectin™ is a transfection reagent specially formulated with multiple cationic polymers for the production of Lentiviral vectors in vitro. It is shown that Lentiviral vectors produced with Lentifectin™ consistently have higher titers than those produced with Calcium-phosphate transfection or with other types of lipid transfection reagent

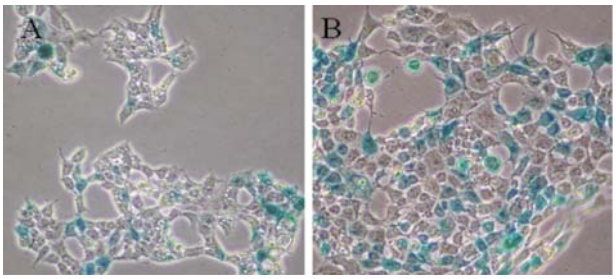


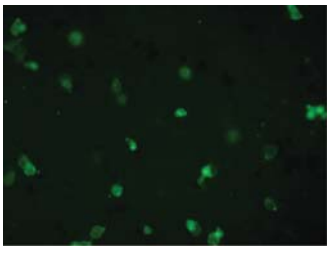
Fig. MDA-MB-468 cells infected recombinant ß-gal Lentiviral vectors produced by Calcium Phosphate transfection (A) and Lentifectin (B). The cells were stained 3 days after viral infection.

G074	Lentifectin™ Transfection Reagent	1.0 ml

Proteinfectin™ Transfection Reagent

ABM's Proteinfectin™ Transfection Reagent comprises of lipid formulations which will mediate the transport of intact functional proteins across the cell membrane via non-covalent complexes. ABM's Proteinfectin™ Transfection Reagent can co-deliver multiple proteins ranging from small peptides to large proteins greater than 550kDa. High delivery efficiency have been observed when delivering diverse proteins (ie. active enzymes and antibodies) with the help of Proteinfectin™ into a variety of cell types including primary cells. This transfection reagent is perfect for any of your protein transfection needs.

Delivery of diverse functionally active proteins and peptides into cultured eukaryotic cells, study protein interactions in living cells, screening peptide libraries, and protein half-life studies.



Transfection of 293 cells with purified GFP protein : Cells were transfected with 2ug of GFP protein using Proteinfectin™ and imaged affter 3 hours of incubation.

G288	Proteinfectin™ Transfection Reagent	250 µl

iLenti™ siRNA Expression System

Product	Individual		Kit Catalog Number					
	Cat. No.	Quantity	LV300	LV301	LV310	LV311	LV098	LV099
Linear iLenti™ Vector	LV014	25µl	V		V			
Linear iLenti™ GFP Vector	LV016	25µl		V		V		
Lenti-Packaging Mix	LV003	100µg	V	V	V	V	V	
Lentifectin™	G074	1.0ml	V	V			V	
293T Cells	LV010	$1x10^6$	V	V				V
Lenti-EGFP	LV011-a	10µg	V	V				V
iLenti Sequencing Primers	LV012	100µl	V	V	V	V		

- Stable plasmid; rare plasmid DNA re-arrangement
- Very high yielding plasmid
- No special competent cells required
- Convergent promoter design
- Higher efficiency of target gene knockdown
- ABM is THE source for your lentiviral expression needs!

Related Products

Cat. No.	Product	Marker
LV006	GFP Control Lentivirus (10ml)	Neomycin
LV007	β-Gal Control Lentivirus (10ml)	Neomycin
LV011-b	β-Gal Control Lentivector (10µg)	N/A
LV023	iLenti™-GFP Negative Control Lentivirus (10ml)	Puromycin

iLenti™ siRNA

Service	Description		Cat. No.
iLenti™ siRNA Cloning	1 iLenti™ Construct	500ng	C043
	1 iLenti™-GFP Construct	500ng	C043-G
	4 iLenti™ Constructs	4 x 500ng	C044
	4 iLenti™-GFP Constructs	4 x 500ng	C044-G
	Negative Control Scramble Vector	500ng	LV015
	Negative Control Scramble Vector with GFP	500ng	LV015-G
iLenti siRNA Lentivirus Production	1 iLenti Construct, Packaged Lentivirus	(10^7 IU/ml; 2 x 200µl)	C043V
	1 iLenti-GFP Construct, Packaged Lentivirus	(10^7 IU/ml; 2 x 200µl)	C043V-G
	Pooled Lentiviruses, 4 iLenti Constructs Pooled	(10^7 IU/ml; 2 x 200µl)	C044V
	Pooled Lentiviruses, 4 iLenti-GFP Constructs Pooled	(10^7 IU/ml; 2 x 200µl)	C044V-G
	Scrambled siRNA Lentivirus		LVP015
	Scrambled siRNA GFP Lentivirus		LVP015-G

siRNA Oligo

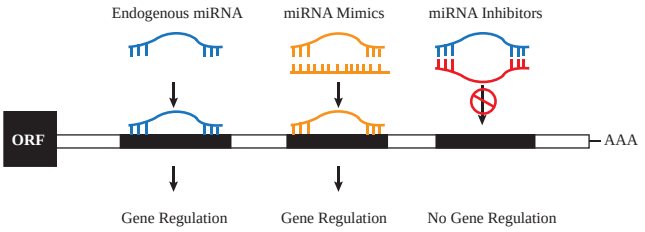
- Produced under ISO9000 quality system
- HPLC purification: siRNA content >97%
- Set of 3 siRNA oligo duplexes for maximum knockdown in human, mouse, or rat
- 19-23 bases for each siRNA oligo duplex
- Chemically modified (2'-OMe) for increased stability, higher efficacy, and lower toxicity in vitro and in vivo
- Annealed dsRNA aliquots in lyophilized powder
- Free positive and negative controls included in every set
- Free design support; guaranteed knockdown of at least 70% in every set

miRNA(microRNA) Expression & Detection

microRNAs (miRNA) are naturally occurring, small non-protein coding sequences that are involved in post-translational gene regulation and have been implicated in a variety of biological processes and diseases. These small RNAs (~22nt) also have a big impact on many complex pathophysiological responses, making them a key part of life science research on mammalian and plant systems.

microRNA Mimics are chemically modified, double-stranded miRNA-like RNA which are designed to copy the functionality of mature endogenous miRNA upon transfection. At the 5'-end, it is synthesized with a partially complementary motif to 3'UTR end of the target gene, which allows the miRNA mimic to specifically bind to the target. Using mimics enables miRNA functionality assessments and serves as a useful exogenous tool for gain-of-function studies.

microRNA Inhibitors are chemically synthesized, complementary, antisense single-stranded oligonucleotides to their target, endogenous mature miRNA. It effectively prevents the target miRNA to bind to normal cellular binding sites. The inhibitors block miRNA regulation of a target gene expression by stable suppression, being able to knock down native miRNA expression in cells, and thus can be used in miRNA loss-of-function related studies.



miRNA profiling allows for the detection and quantification of miRNAs with high sensitivity and specificity, and provides researchers with both raw and processed data for quick interpretation and comparison of multiple samples.

Lentiviral vectors and ready-to-use **lentiviruses** and **adenoviruses** allow researchers to over-express or inhibit individual miRNAs to study their functional roles in both in vitro and in vivo systems.

Target validation for miRNAs can be performed with 3'UTR reporter vectors, lentiviruses, or stable cell lines utilizing a reporter gene such as luciferase or GFP.

miRNA Profiling

abm's miRNA Profiling Service provides extensive Sanger miRBase registry coverage (Human and Mouse) and offers fast turn-around time with high sensitivity and specificity. Our profiling platform utilizes quantitative reverse transcription PCR (qRT-PCR) to achieve highly parallel and high-throughput results.

Accurate result from minimal starting material

Unlike other miRNA quantification approaches, abm's miRNA profiling service requires significantly less purified total RNA (1-10 ng) than hybridization-based methods (>100 ng required).

Distinguish between highly homologous mature miRNAs

The existence of multiple miRNA isoforms presents a significant challenge in miRNA quantification. All the primers in our assay are experimentally validated and are able to achieve single-base discrimination with minimal cross-reactivity.

Synthetic miRNA Template	Assay Primers	Relative Detection (% Perfect Match)	miRNA Template Sequence
miR-19a	miR-19a	100	UGUGCAAAUC**U**AUGCAAAACUGA
	miR-19b	**3.17**	UGUGCAAAUC**C**AUGCAAAACUGA
miR-19b	miR-19b	100	UGUGCAAAUC**C**AUGCAAAACUGA
	miR-19a	**0.68**	UGUGCAAAUC**U**AUGCAAAACUGA
miR-23a	miR-23a	100	AUCACAUUGCCAGGGAUU**U**CC
	miR-23b	**0.89**	AUCACAUUGCCAGGGAUU**A**CC
miR-23b	miR-23b	100	AUCACAUUGCCAGGGAUU**A**CC
	miR-23a	**0.78**	AUCACAUUGCCAGGGAUU**U**CC
miR-10a	miR-10a	100	UACCCUGUAGA**U**CCGAAUUUGUG
	miR-10b	7.80	UACCCUGUAGA**A**CCGAAUUUGUG
miR-10b	miR-10b	100	UACCCUGUAGA**A**CCGAAUUUGUG
	miR-10a	**0.07**	UACCCUGUAGA**U**CCGAAUUUGUG

Figure 1:
Single Nucleotide discrimination data. Relative detection, displayed as a percent of the perfect match, was calculated using the Ct values of target and off-target assays.

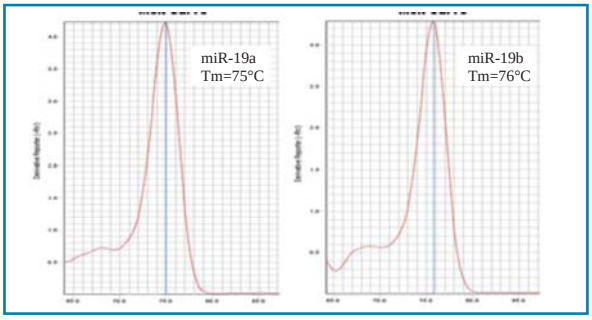


Figure 2:
Melt Curve analysis of miR-19a and miR-19b amplification. The discrete peaks correspond to single amplicon species and demonstrates no non-specific binding of the primers

miRNA profiling data analysis service

Our miRNA profiling service offers data processing, data normalization and calculation of differential miRNA expression between samples.

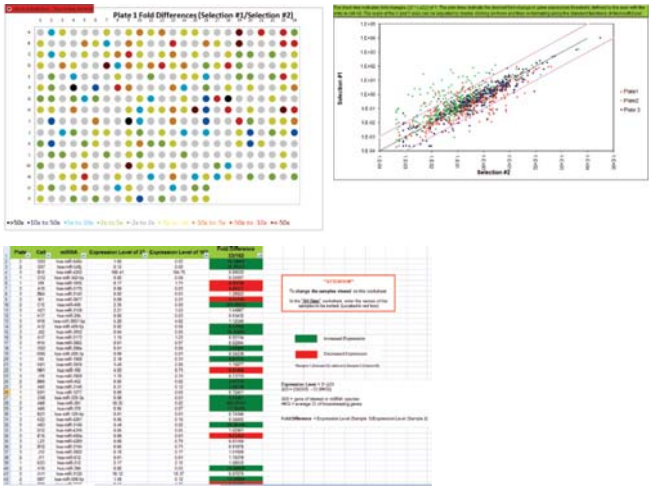


Figure 3:
Our results are presented in a variety of visual formats, allowing rapid interpretation of data sets.

Explore individual mirna roles in functional studies

We offer individual miRNA primers for targeted quantification workflows following the miRNA profiling service. Customizable profiling service is also available upon request.

qPCR miRNA Arrays

MA003	Human Whole Genome miRNA Profiling Kit 384-well qPCR arrays for analyzing miRNA based on miRBase Sanger V.16 (1034 miRNAs) 3 Rxns
MA004	Mouse Whole Genome miRNA Profiling Kit 384-well qPCR arrays for analyzing miRNA based on miRBase Sanger V.16 (726 miRNAs) 3 Rxns

384-plates x 3 sets, optically clear adhesive films x 3 sets,
and 5mL of 2X EvaGreen qPCR Mastermix.

miRNA Profiling Service

C201	Human 1034 Mature miRNAs based on miRBase V16.0
C202	Mouse 726 Mature miRNAs based on miRBase V16.0

miRNA cDNA Synthesis Kit

G269	miRNA cDNA Synthesis Kit	25 Rxns
G270	miRNA cDNA Synthesis Kit	100 Rxns

EvaGreen miRNA qPCR Mastermix

High performance qPCR mastermix, specially formulated for specific detection and quantification of miRNA.

Mastermix-mR	EvaGreen miRNA qPCR MasterMix-ROX 4 x 1.25 ml for 500 Rxns
Mastermix-mL	EvaGreen miRNA qPCR MasterMix-Low ROX 4 x 1.25 ml for 500 Rxns
Mastermix-mC	EvaGreen miRNA qPCR MasterMix-iCycler 4 x 1.25 ml for 500 Rxns
Mastermix-mS	EvaGreen miRNA qPCR MasterMix-No Dye 4 x 1.25 ml for 500 Rxns

miRNA Primer Sets

All our primers have been validated for accuracy, extensively studied to obtain their optimal qPCR reaction conditions and optimized to work with our qPCR miRNA Mastermix. Also, they cover every miRNA characterized in the Sanger 21.0 database release (June 2014).

miRNA Mimics

Our microRNA Mimics are chemically modified, double-stranded miRNA-like RNA which are designed to copy the functionality of mature endogenous miRNA upon transfection. Our comprehensive list covers all the miRNA characterized in the Sanger 21.0 database release (June 2014).

miRNA Inhibitors

Our microRNA inhibitors are chemically modified, complementary, antisense single-stranded oligonucleotides to their target, endogenous mature miRNA. Our comprehensive list covers all the miRNA characterized in the Sanger 21.0 database release (June 2014).

Search miRNA Primer / Mimics / Inhibitor Products

(•) Human ( ) Mouse ( ) Rat

miRNA Name : or

Cat # : Search

https://www.abmgood.com

Lentivirus miRNA Systems (LentimiRa)

Recombinant lentiviral expression vectors are the most widely used delivery vehicle for miRNA delivery due to their high efficiency transduction and stable integration. As a world leader in both lentiviruses and miRNA, abm provides the most comprehensive selection of miRNA lentivirus expression and inhibition vectors for human, mouse, and rat.

Efficient over-expression of individual miRNAs

Each lentiviral miRNA vector has the option of including a GFP reporter and uses the constitutive CMV promoter in both plasmid vector and ready-to-use viral particle formats. The design of native pri-miRNA (~400-500 bp) for each miRNA offers higher levels of target gene suppression than those based on a single common miRNA backbone as seen with competitors.

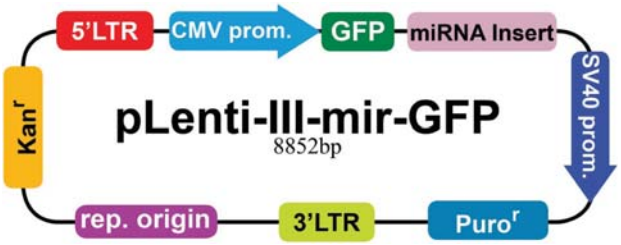


Figure 4:
Vector maps for LentimiRa over-expression system. LentimiRa constructs have puromycin resistance for stable cell selection and an optional GFP reporter for monitoring transfection, transduction and expression.

Specific inhibitors for 5p or 3p arm of miRNA stem-loops

miRNA inhibitors are provided in lentiviral plasmid vector and ready-to-use viral particle format for the knock-down of specific miRNA expression. They are designed to suppress the expression of only one of the 5p or 3p arms of the miRNA stem-loop, allowing for a more targeted approach to miRNA functional studies.

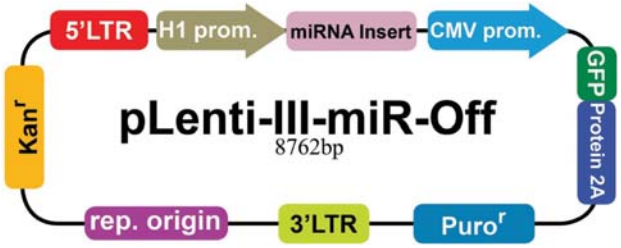


Figure 5:
Vector maps for LentimiRa-Off inhibitor system. LentimiRa-Off constructs have puromycin resistance for stable cell selection and an optional GFP reporter for monitoring transfection, transduction.

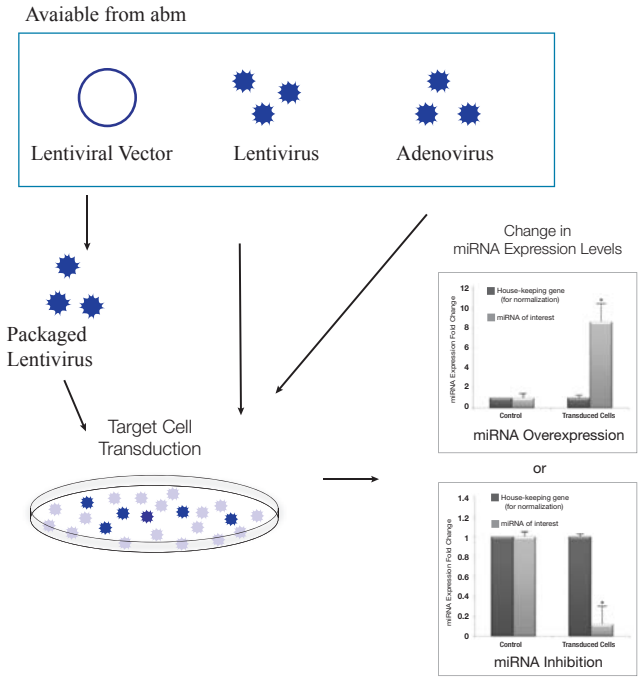


Figure 6:
abm miRNA expression and inhibitor products at a glance.

Products	Quantity
miRNA Overexpression Lentiviral Vector	500 ng
miRNA Overexpression Lentivirus	2 x 50 µl
miRNA Inhibitor Lentiviral Vector	500 ng
miRNA Inhibitor Lentivirus	2 x 50 µl

Search miRNA Expression Products

Human Mouse Rat

miRNA Name : or

miRNA Accession # :

Search

https://www.abmgood.com

Adenovirus miRNA Systems (AdmiRa)

Adenoviral vectors are the most efficient gene transfer vehicle and offer 100% transient transduction efficiency in most cell lines in vitro. The vector will not be integrated into the host cell's genome, minimizing the possibility of host genome mutations associated with vector insertion.

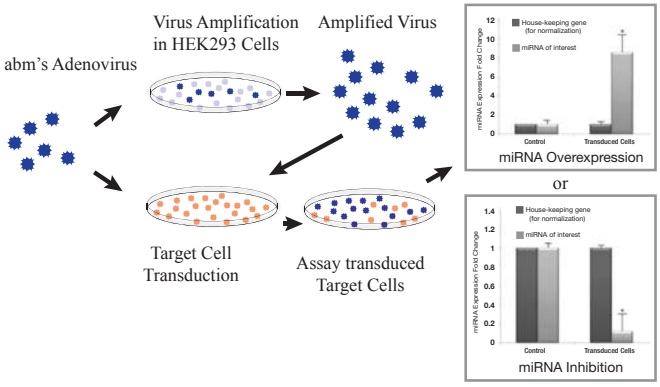


Figure 7:
abm Adenovirus expression system viral partial transduction procedure at a glance.

3'UTR Reporter Vector and Stable Cell Lines

One of the most reliable, quantitative assays for the suppression of target genes by a specific miRNA is the utilization of a reporter gene such as luciferase or GFP. Using this system, any 3'UTR target site can be subcloned downstream of a reporter gene and co-transfected along with a specific miRNA expression vector into cells. Subsequent inhibition of reporter gene expression by the miRNA (when compared to appropriate controls) can serve to validate the regulation of the gene through a target site present on the 3'UTR. A further advantage of using our lentiviral vectors is the flexibility of application for both direct transfection and viral transduction methods.

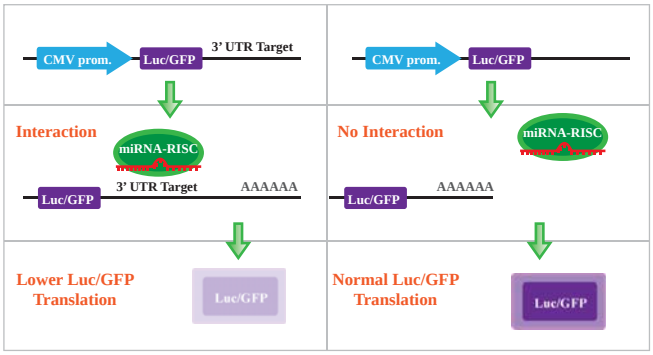


Figure 8:
miRNA target validation. Decreased Luciferase or GFP translation can be detected if the 3'UTR sequence of the gene of interest is targeted by the miRNA in question.

Products	Quantity
miRNA Overexpression Adenovirus	250 µl
miRNA Inhibitor Adenovirus	250 µl
3'UTR Reporter Lentiviral Vector	1 µg
3'UTR Reporter Lentivirus	3 ml
3'UTR Reporter Stable Cell Line	

Search miRNA Expression Products

3' UTR Luciferase Reporter | 3' UTR GFP Reporter | 3' UTR Stable Cell Lines

Gene Name : or

miRNA Accession # : or

miRNA Name :

Search

https://www.abmgood.com

Next Generation Sequencing Services

A significant technological advancement, Next Generation Sequencing (NGS), is poised to redefine many aspects of clinical and non-clinical research while setting up the foundation for the upcoming field of personalized medicine. The sheer magnitude, high precision and utilizable nature of the data amassed from NGS renders it ideal for gene expression experiments whereby one can get a very detailed look at the transcriptome. Similarly, NGS Exome Sequencing allows researchers to better understand the variation(s) present in the functional regions of the genome. In many cases, experimental objectives are better met by targeted NGS; for instance, disease panels offer the best route to probe specific interests in diseases. NGS technology also provides a much better resolution for chromatin immunoprecipitation (ChIP) experiments compared to microarray.

In preparation for the foreseeable era of NGS, abm offers a wide range of sequencing services on both Ion Torrent™ and Illumina® platforms at the most affordable prices and with the fastest turnaround time(s). Abm's premium NGS services will not only save your valuable time and money but also provide you with the most reliable and comprehensive results for your ongoing project(s).

Whole Genome Sequencing

Whole genome sequencing (WGS) provides the most comprehensive map of an individual's genetic make-up. With as little as 3 µg of genomic DNA, WGS can provide 30X coverage for the genome from any species, something that has become only recently achievable.

Human, Mouse and Yeast Transcriptome Sequencing / RNA Sequencing

Genomic complexity manifests through gene expression

RNA sequencing (RNA-Seq) is an emerging technology that is expected to transform the landscape of current and future gene-expression studies. Poised to deliver much more information while being relatively lucrative, RNA-Seq is expeditiously replacing conventional methods such as microarray and comparative genomic hybridization. As a global leader in functional genomics, abm offers the most reliable RNA-Seq services that are tunable to a wide spectrum of custom needs on both the Ion Torrent™ and Ilumina® platforms with a turnaround time of only 2~3 weeks.

- *40 million reads can be utilized for the identification of alternative gene splicing and transcript quantification.*
- *80 million reads enables a more sensitive detection of low-abundance, non-coding transcripts.*

Human & Mouse Exome Sequencing (Exome-Seq)

The protein coding regions of the human genome constitute ~85% of the disease-causing mutations.

Exome-Seq presents an attractive alternative to Whole Genome Sequencing (WGS). The iterative detailing of the data amassed from Exome-Seq can be very resourceful for teasing out, with high precision and reliability, single-nucleotide variants and *de novo* mutations associated with both Mendelian and common diseases. As a leading service provider, abm's premium Exome-Seq services can be tailored to suit any project with overall turnaround time of only 2~4 weeks.

Targeted sequencing

Based on prior knowledge of the region of interest, custom targeted sequencing aims to only sequence the specified subset of the genome enabling maximal utilization of the NGS platform by giving the deepest genetic analysis compared to WGS and Exome-Seq. Depending on the list(s) of chromosomal coordinates for your target(s), scientists at abm can capture targets of up to 20 million base pairs and perform the gene sequencing for your specific project.

Disease Panels and Pathway Genes

NGS can provide valuable insights into ''if and how'' the genetic material impacts and/or triggers various pathological conditions. The convenient, pre-designed panels allow doctors to make precise diagnosis and provide a customized/personalized treatment plan for each individual. Available panels / services include:

- Cancer hotspot panel v2
- Human pan-cancer genes
- Comprehensive cancer panel
- RNA cancer panel
- Inherited disease panel
- RNA apoptosis panel
- Human breast cancer panel
- The BRCA panel
- The colon and lung panel
- Human deafness genes panel
- Human and mouse mitochondria
- Human kinome
- Human DCM and HCM genes
- Human drug ADME related genes

Data & Bioinformatic analyses provided:

- A concise and comprehensive summary report
- Sequencing results in industry standard formats (BAM, FASTQ, SFF)
- Alignment to the reference
- Coverage analysis – provides statistics and graphs describing the level of sequence coverage produced for targeted genomic regions
- Variant analysis – calls SNP and indel variants across a reference or within a targeted subset of that reference
- Additional analyses available upon request, for example, unbiased gene expression analysis report for RNA-Seq

List of Next Generation Sequencing Services

Service(s)	Types	Cat. No.
WGS	Whole Genome Sequencing (10Gb, 2x75bp PE)	IW20200
	Whole Genome Sequencing (30Gb, 2x75bp PE)	IW20400
RNA-Seq	Total RNA Sequencing (8 million reads, 1x75bp SE)	IR13008
	Total RNA Sequencing (20 million reads, 1x75bp SE)	IR11020
	Total RNA Sequencing (40 million reads, 1x75bp SE)	IR11040
	Total RNA Sequencing (80 million reads, 1x75bp SE)	IR11080
	miRNA/Small RNA Sequencing (10 million, 1x75bp SE)	IR12020
	Total RNA Sequencing (8 million reads, 2x75bp PE)	IR13007
	Total RNA Sequencing (20 million reads, 2x75bp PE)	IR11021
	Total RNA Sequencing (40 Million Reads, 2x75bp PE)	IR11041
	Total RNA Sequencing (80 Million Reads, 2x75bp PE)	IR11081
	miRNA/Small RNA Sequencing (10 Million Reads, 2x75bp PE)	IR12007
Targeted-Seq	Custom targeted NGS, <500kb	IT40500
	Custom Targeted NGS, >7mb	IT40700
Disease panels	Comprehensive Cancer Panel I Service	ID50120
	Selective Cancer Panel I Service	ID50140
	Selective Cancer Panel II Service	ID50150
	Breast Cancer Panel Service	ID50220
	Colon and Lung Cancer Panel Service	ID50310
	Inherited Disease Panel I Service	ID50400
	Inherited Disease Panel II Service	ID50410
	Inherited Cardiomyopathy Panel Service	ID50420
	Deafness Genes Panel Service	ID50510
	Autism Panel Service	ID50520
	DCM & HCM Genes Panel Service	ID50610
	Human and Mouse Mitochondria (>2000 coverage) Panel Service	ID50810
Exome-Seq	Exome Sequencing (Human, 37Mb Exome, 30X Coverage)	IE30501
	Exome Sequencing (Human, 37Mb Exome, 100X Coverage)	IE30502

Confidentiality

All customer information is held in strict confidence. All materials and information sent to us and the products produced by us for the order are the property of the customer and will be returned to the customer or discarded in an confidential manner. We only archive customer materials when instructed to.

CH044	2-Mercaptoethanol	100 ml
CH045	2-Mercaptoethanol	200ml (2 x 100ml)
CH027	3,3-Diaminobenzidine (DAB) 5mg Substrate Tabs	50 Tabs
CH028	3,3-Diaminobenzidine (DAB) 5mg Substrate Tabs	100 Tabs
CH001	Actinomycin D	5.0 mg
G060-1	Agarose	100 g
G060-2	Agarose	500 g
CH002	Agarose II, Low Gelling Temperature	25 g
CH003	Agarose II, Low Gelling Temperature	100 g
CH006	Albumin, Bovine 20mg/ml solution	1.0 ml
CH007	Albumin, Bovine 20mg/ml solution	5.0 ml
CH004	Albumin, Bovine pH 5.1 +/-0.2, Salt Free Form	25 g
CH005	Albumin, Bovine pH 5.1 +/-0.2, Salt Free Form	100 g
CH008	Ammonium Persulfate (APS)	25 g
CH009	Ammonium Persulfate (APS)	100 g
CH011	Aprotinin	50 mg
CH012	BCIP, 5-Bromo-4-Chloro-3-Indolyl Phosphate	100 mg
CH013	BCIP, 5-Bromo-4-Chloro-3-Indolyl Phosphate	500 mg
CH014	BCIP, 5-Bromo-4-Chloro-3-Indolyl Phosphate Toluidine Salt	1.0 g
CH015	BCIP/NBT	100 ml
CH016	Beef Extract Powder	50 g
CH017	Beef Extract Powder	100 g
CH018	Beef Extract Powder	500 g
CH036	B-Galactosidase	1.0 kU
CH037	B-Galactosidase	5.0 kU
G114	Bromophenol Blue	5.0 g
CH019	Bromophenol Blue	25 g
CH020	Bromophenol Blue	50 g
CH021	Bromophenol Blue	100 g
CH022	Bromophenol Blue, Sodium Salt	50 g
CH023	Bromophenol Blue, Sodium Salt	100 g
CH024	Coomassie Brilliant Blue R-250	10 g
CH025	Coomassie Brilliant Blue R-250	25 g
CH026	Coomassie Brilliant Blue R-250	50 g
CH065	Cumate	500 µl
G030	DNA Loading Dye	6 X, 3 x 1.0 ml
CH029	DNA, Fish Sperm, Sodium Salt	5.0 g
CH030	DNA, Fish Sperm, Sodium Salt	10 g
CH031	DNA, Fish Sperm, Sodium Salt	25 g
G028	DNase I	2000 U (1.0 ml)
CH032	EDTA, Disodium Salt, Dihydrate	500 g
CH033	EDTA, Disodium Salt, Dihydrate	1.0 kg
CH034	EDTA, Disodium Salt, Dihydrate	2.5 kg
CH038	Glycerol	100 ml
G115	Glycerol	500 ml
G024	Glycogen	20 mg/ml; 1.0 ml
CH039	Hepes, Sodium Salt	25 g
CH040	Hepes, Sodium Salt	100 g
CH041	Hepes, Sodium Salt	500 g
G116	IPTG	1.0 g
G247	LB Agar	500 g
G246	LB Broth	500 g
G035	Neutral Red	5 x 1.0ml
CH046	Nitroblue Tetrazolium Chloride	500 mg
CH047	Nitroblue Tetrazolium Chloride	1.0 g
G140	Oligo(dT)18 Primer	1.0OD, 500 µl, 10 µM
CH048	Pepstatin	5.0 mg
CH049	Pepstatin	25 mg
G062	Polybrene	1.0 ml; 0.8 mg/ml
G029	Proteinase K	1.0 ml
G139	Random Primer (6N)	1.0OD, 500 µl, 10 µM
G117	RNase A	25 mg
G118	RNase A Solution	1.0 ml; 10 mg/ml
G138	RNaseOFF Ribonuclease Inhibitor	4,000 U (100 µl)
CH052	Sodium Azide	250 g
CH054	Tetracycline, Hydrochloride	25 g
CH055	Tetracycline, Hydrochloride	100 g
CH058	TRIS	500 g
CH059	TRIS	1kg (2 x 500g [CH058])
CH060	TRIS	5kg (10 x 500g [CH058])
CH061	Triton X-100, T-Octylphenoxypolyethoxyethanol	1L (2 x 500ml)
CH062	Triton X-100, T-Octylphenoxypolyethoxyethanol	4.0 L
CH063	TWEEN 20, Polyoxyethylene-20-Sorbitan Monolaurate	1.0 L
CH064	TWEEN 20, Polyoxyethylene-20-Sorbitan Monolaurate	4.0 L

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abm
Applied Biological Materials Inc.

abm 제품은 매주 수요일 발주 진행합니다.
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