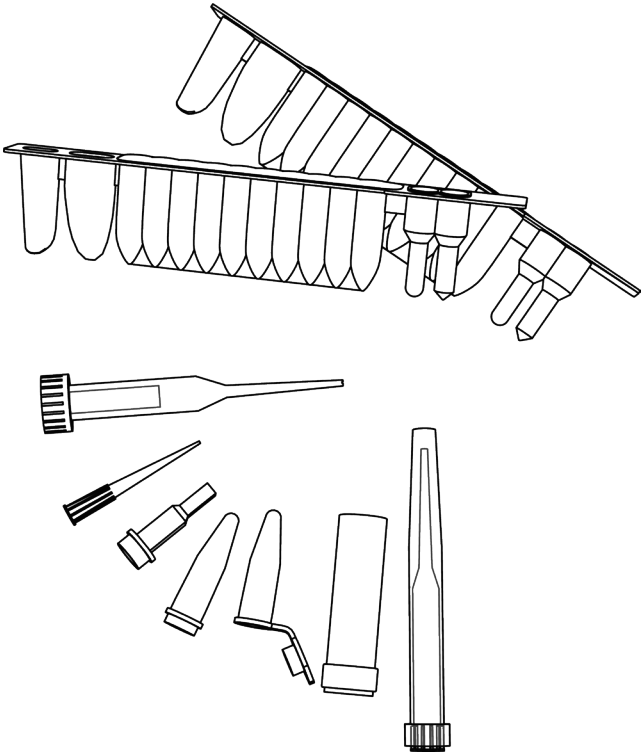
MagCore®
Nucleic Acid Extraction Kit
User's Manual



Oct 2026
EN-MagCore® Nucleic Acid Extraction Kit
User's Manual-1.1.13

RBC Bioscience Corp.
15F, No.15, Qiaohe Rd, Zhonghe Dist, New Taipei City 235029, Taiwan
TEL : +886-2-8912-1200 FAX : +886-2-8912-1300

EC REP Obelis s.a (obelis.net)Bd. Général
Wahis 53 1030 Brussels, BELGIUM

CE IVD

CONTENTS

Intended use 1
Principle of the procedure 1
How to Use this product. 2
IVD Symbols Reference 4
How to Use the Kit. 5

Introduction of Each MagCore® Nucleic Acid Extraction Kits
Kit Contents, Description, Applications, Pretreatment, Protocol

MagCore® Genomic DNA Whole Blood Kit (Speedy Installation) 19
Cartridge Code 101 *Cat. No. MGB400-01 // MGB400-02*

MagCore® Genomic DNA Whole Blood Kit. 23
Cartridge Code 102 (Use code 119 for fast protocol) *Cat. No. MGB400-03 // MGB400-04*

MagCore® Genomic DNA Large Volume Whole Blood Kit 27
Cartridge Code 104 *Cat. No. MGB-1200*

MagCore® Plasma DNA Extraction Kit (1.2 ml). 29
Cartridge Code 105 *Cat. No. MPD-1200*

MagCore® Genomic DNA Whole Blood Kit (For Genotyping) 31
Cartridge Code 106 *Cat. No. MGB400-07 // MGB400-08*

MagCore® Cultured Cells DNA Kit 35
Cartridge Code 110 *Cat. No. MCC-01 // MCC-02*

MagCore® Circulating DNA Large Volume Kit (4 ml) 39
Cartridge Code 115 *Cat. No. MPD4000-01 // MPD4000-03*

MagCore® Viral Nucleic Acid Extraction Kit. 41
Cartridge Code 202 *Cat. No. MVN400-03 // MVN400-04*

MagCore® Viral Nucleic Acid Extraction Kit (High Sensitivity). 45
Cartridge Code 203 (Use code 219 for fast protocol) *Cat. No. MVN400-05 // MVN400-06*

MagCore® Viral Nucleic Acid Large Volume Extraction Kit (1.2 ml) 49
Cartridge Code 211 *Cat. No. MVN-1200*

MagCore® Viral Nucleic Acid Large Volume Extraction Kit (2.4 ml) High Sensitivity 51
Cartridge Code 220 *Cat. No. MVN-2401*

MagCore® Genomic DNA Plant Kit 53
Cartridge Code 301 *Cat. No. MGP-01 // MGP-02*

MagCore® Genomic DNA Tissue Kit. 57
Cartridge Code 401 *Cat. No. MGT-01 // MGT-02*

MagCore® Genomic DNA FFPE One-Step Kit 67
Cartridge Code 405 *Cat. No. MGF-01 // MGF-03*

MagCore® Forensic DNA Direct Kit. 71
Cartridge Code 406 *Cat. No. MFC-01 // MFC-03*

MagCore® Genomic DNA Bacterial Kit 77
Cartridge Code 502 *Cat. No. MBB-01 // MBB-02*

MagCore® Gut Microbiome DNA Kit 81
Cartridge Code 504 *Cat No. MGM-01 // MGM-02*

MagCore® Genomic DNA Microbial Library-Ready Kit 87
Cartridge Code 506 *Cat. No. MGL-01 // MGL-02*

MagCore® Total RNA FFPE One-Step Kit 93
Cartridge Code 605 *Cat No. MRF-01 // MRF-03*

Magcore Plasma microRNA Extraction Kit *99*
Cartridge Code 620 Cat. No.MMR-01//MMR-03

MagCore® triXact RNA Kit *103*
Cartridge Code 631 Cat. No.MRX-01 //MRX-03

MagCore® mRNA One-Step Kit *109*
Cartridge Code 639 Cat. No.MRM-01 //MRM-03

MagCore® NGS Auto Size-Select purification Kit *113*
Cartridge Code 701 Cat. No.MNC-01 //MNC-02

Results *117*
Running Time List *156*
Product Selection Guide *160*
Ordering Information *161*
Document Revision History *162*

Intended use

The MagCore® Nucleic Acid Extraction System is an automated nucleic acid purification system consisting of the MagCore® instrument, software, Kit (consumables and reagents).

The MagCore® Nucleic Acid Extraction System is intended to be used by professional users for the purification of nucleic acids from biological samples for in vitro diagnostic purposes.

The MagCore® Nucleic Acid Extraction Kits are intended to be used with MagCore® Nucleic Acid Extraction System.

Principle of the procedure

The nucleic acid isolation procedure is based on the proven MagCore patented technology of cellulose coated magnetic beads technology. After washing off the contaminants, the purified Nucleic Acid is eluted by low salt elution buffer.

The key steps of this isolation procedure are:

1. *Sample material is lysed, nucleic acids are released, and nucleases are denatured.*
2. *Nucleic acids bind to the cellulose coated magnetic beads surface due to the chaotropic salt conditions and the high ionic strength of the lysis/binding buffer.*
3. *Cellulose coated magnetic beads with bound nucleic acids are magnetically separated from the residual lysed sample.*
4. *Unbound substances, such as proteins, cell debris, and PCR inhibitors are removed by several washing steps.*
5. *Purified nucleic acids are eluted from the cellulose coated magnetic beads.*

How to Use this product

Before you begin

Sample Materials

Do not process samples with higher volume or cell count than the selected purification protocol is designed to handle. This will lead to reduced yield since the magnetic beads will clump and not bind nucleic acid as efficiently when the viscosity is too high or too much nucleic acid is present.

Control Reactions

Always run appropriate controls with the samples, especially if you want to perform quantification analyses of the eluted nucleic acid samples (e.g., by real-time PCR assays). In order to control the complete process starting from sample preparation to quantification analysis, perform the following controls:

- *Positive Control, by using a sample material positive for your target.*
- *Negative Control, by using a sample material negative for your target.*
- *Internal Control (IC), by adding a defined amount of a control template to all samples to be purified.*

Internal Control

The MagCore® instrument offers the option to add an Internal Control (IC) to the samples during the purification procedure. Including an IC is important to detect a possible impairment of the nucleic acid isolation process.

General Considerations

Precautions

The following procedure is designed to process maximum 48 samples at the same time. The MagCore® instrument can handle all numbers of samples between 1 and 48. For a detailed description of instrument setup and handling, refer to the MagCore® instrument Operator's Manual.

- *Store the Reagent Cartridge to +15 to +25°C before use. If you use the reagents at temperatures outside the recommended range, the kit may not work well.*
- *Document the lot number of the kit in case of complaints or questions for RBC Bioscience Technical Service regarding any component of the kit (reagent cartridges or disposables).*
- *Make sure you have followed the instructions regarding type and amount of sample material. Wrong type and amount of sample material may cause clumping of MGPs which cannot be detected by the Clot Detection function of the instrument. Clumping of beads may lead to low yield and purity of nucleic acids, cross-contamination, and inhibition of downstream assays (e.g., PCR).*
- *After the run has finished, carefully inspect the instrument for any signs of spillage. If spillage occured, clean the instrument as described in the Operator's Manual.*
- *Some buffers contain guanidinium salts which are hazardous irritants. Do not allow these to come into contact with skin, eyes, or mucous membranes. If contact does occur, wash the affected area immediately with large amounts of water. If necessary, immediately contact your laboratory supervisor and seek medical assistance When spilling these reagents, dilute the spill with large amounts of water before attempting to clean up the spill.*
- *Do not allow reagents containing guanidine thiocyanate (lysis and wash buffer well) to contact sodium hypochlorite (bleach) solution or acids. These mixtures produce a highly toxic gas.*
- *Please notice that you may be required to report serious incidents that have occurred in relation to the device to the manufacturer and the competent authority in which the user and/or the patient is established.*

Prevention of Cross-Contamination

To minimize the risk of cross-contamination and to prevent contact with potentially infectious materials, always complete the processes involving sample preparation such pipetting of blood samples in a designated part of the benchtop or safety hood before starting PCR setup.

To further minimize the risk of contamination, always carry out sample preparation, PCR setup, and the PCR run itself in separate rooms specially designated for each phase in the workflow.

Safety Information Laboratory Procedures

Handle all samples as potentially infectious, using safe laboratory procedures. As the sensitivity and titer of potential pathogens in the sample material varies, the operator must optimize pathogen inactivation by the Lysis/Binding Buffer or take appropriate measures, according to local safety regulations.

RBC Bioscience does not warrant that samples treated with Lysis Buffer are completely inactivated and noninfectious. After sample processing is completed, remove and autoclave all disposable plastics.

- *Do not eat, drink or smoke in the laboratory work area.*
- *Wear protective disposable gloves, laboratory coats, and eye protection when handling samples and kit reagents.*
- *Do not contaminate the reagents with bacteria, viruses, or nucleases. Use disposable pipettes and nuclease-free pipette tips only to remove aliquots from reagent bottles. Use the general precautions described in the literature.*
- *Wash hands thoroughly after handling samples and reagents.*
- *Complete each phase of the PCR/RT-PCR workflow before proceeding to the next phase. For example, you should finish PCR/RT-PCR sample preparation before starting PCR/RT-PCR setup. Sample preparation, PCR/RT-PCR setup and the PCR/RT-PCR run itself should also be performed in separate locations.*

Waste Handling

- *Discard unused reagents and waste in accordance with country, federal, state, and local regulations.*
- *Safety Data Sheets (SDS) are available upon request from the local distributor.*

Additional Equipment and Reagent required

Additional reagents and equipment required to perform nucleic acid isolations with the

MagCore® Nucleic Acid Extraction Kit using the MagCore® instrument:

Standard Laboratory Equipment

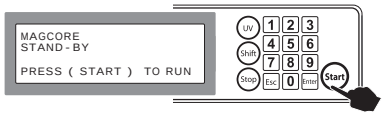
- *Pipettes and nuclease-free, aerosol-preventive tips to predispense samples into the Sample Tubes*
- *Centrifuge and suitable tubes*
- *Heat block for 1.5 ml(or 2.0mL)reaction tubes (optional: according to protocol)*

IVD Symbols Reference

Reference symbol	Description of Symbol
	CE mark
	In Vitro Diagnostic Device
	Authorized representative in the European Community
	Manufacturer
	Content sufficient for <n> tests
	Warning: electricity
	Instruction manual must be read before operating
	Consult instructions for use
	Alternate current input
	Use-by Date
	No use period
	Temperature storage conditions 15ºC / 30ºC
	After mixing store at 0ºC / 8ºC
	After opening store at 0ºC / 8ºC
	Catalogue number (product code)
	Lot number
	Model
	Number of aliquots
	Included in the product
	Cartridge code number
	Sterile
	Sterilized using irradiation
	Serial Number
	Fuse

How to Use the Kit - MagCore®HF16 and Compact

Install all necessary accessories and apply your specimen to MagCore®.

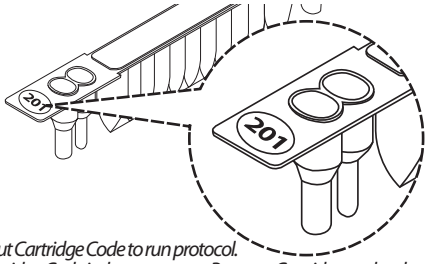


Press START.



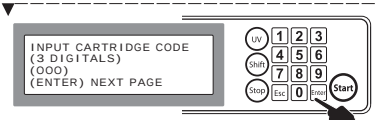
After press Start button, machine runs program of calibration, initialize to move all axis to original factory positions.



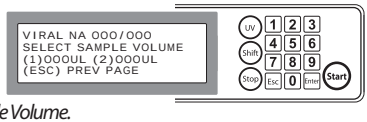


Input Cartridge Code to run protocol.
Cartridge Code is shown on your Reagent Cartridge and at the cover of the user manual.

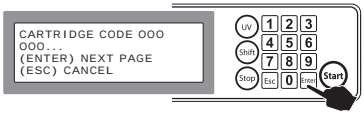
The above CODE is for demonstration purposes only, please refer to the kit you purchase for proper program Code



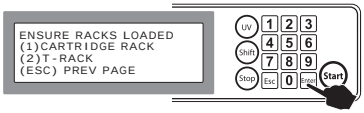
Confirm your input code again and press Enter to next page for sample volume selection.



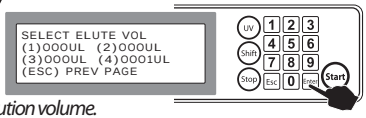
Select Sample Volume.



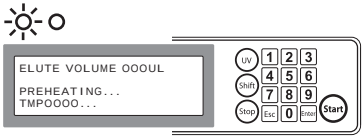
Confirm your input Sample Volume.
Press Enter for next page, Press ESC for back to Stand-By page.



At this step prepare racks to operation area.
After racks are loaded, press Enter to next page for elution volume selection.

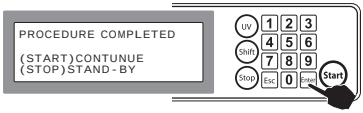


Select final elution volume.



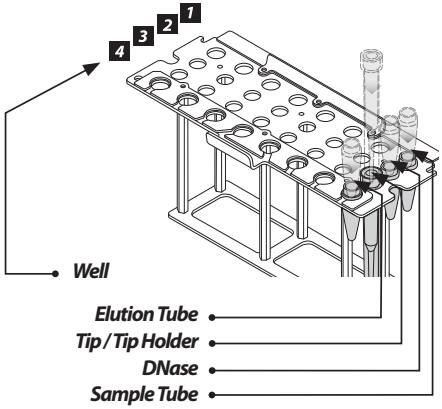
MagCore® in process of selected protocol at this step. The Green Indicate LED lights up and Heating Block starts to heat up to 65°C for Lysis Step.

While MagCore® is under program running, the "MagCore" LCD lights up at all times.
DO NOT open the door at this moment, it causes emergent stop and you might lose your samples by machine interruption.



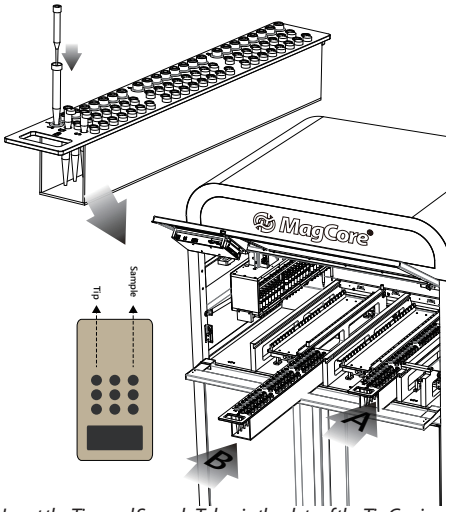
While program finished, a beep sound can be heard and Green Indicate LED light went out.

Well Position of T-Rack



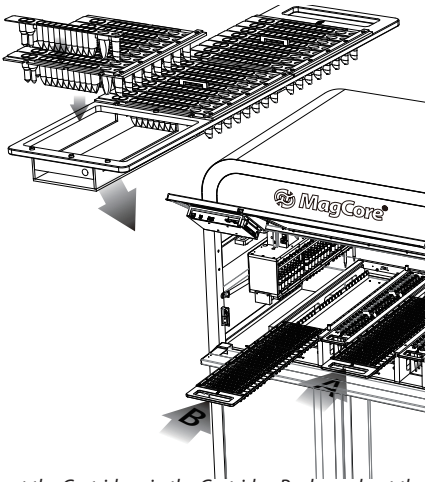
How to Use the Kit - MagCore®HF48

Install Tip and Sample Tube.



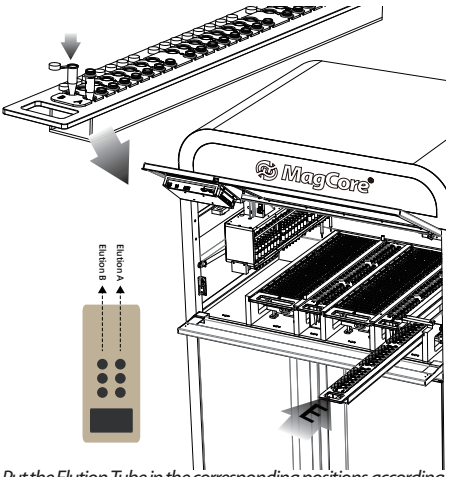
Insert the Tips and Sample Tubes in the slots of the Tip Carriers and then respectively put the whole sets of Tip carriers at the slots of the area A and area B according to the indicators.

Install Cartridge



Insert the Cartridges in the Cartridge Racks and put the Cartridge Racks into the Cartridge Carriers and then respectively put the whole sets of Cartridge Carriers at the slots of the area A and area B according to the indicators

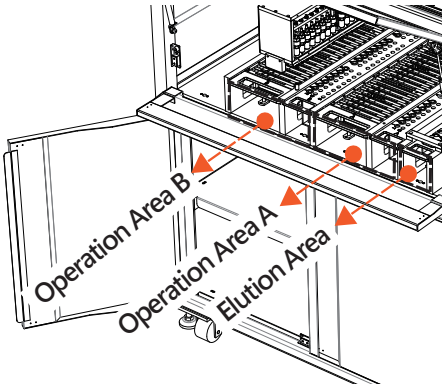
Install Elution Tube



Put the Elution Tube in the corresponding positions according to the area A and area B and then put the Elution Carrier in the Elution slots.

Warning:

The Carriers of the area A can only be used in the area A; similarly, the Carriers of the area B can only be used in the area B, or the system may not detect the Carriers and cannot work normally.



Warning:

Please don't use any other centrifuge tubes to replace the Sample Tube of the reagent kit. The height of other sample tubes may be different from that of the Sample Tubes of the reagent kit, which may influence the extraction result.

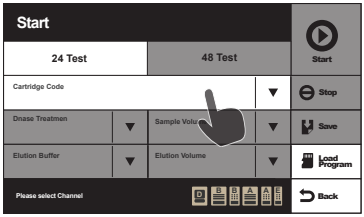




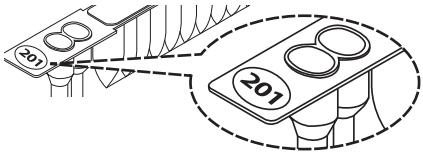
Press Start key in the main functional window.

▼ **Next Step**

Select 24 or 48 test channels.



Select Cartridge Number.
Cartridge Number is marked on the Cartridge you use.



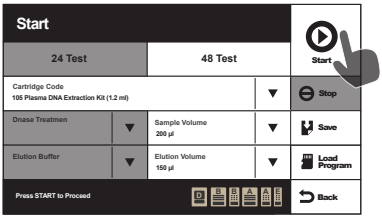
Please reconfirm the number you selected and select all parameters.

▼ **Next Step**

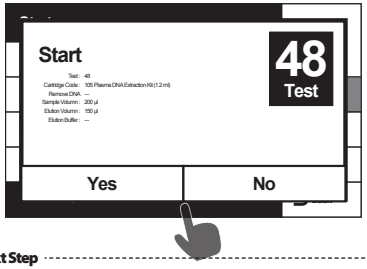


Confirm that the icon ⊗ *in the status bar is in normal status. If the icon shows , the Start key will be at "inactive" status and the operation is disabled. Please follow the display portion to remove error to solve. (Refer to page 8 for warning marks)*

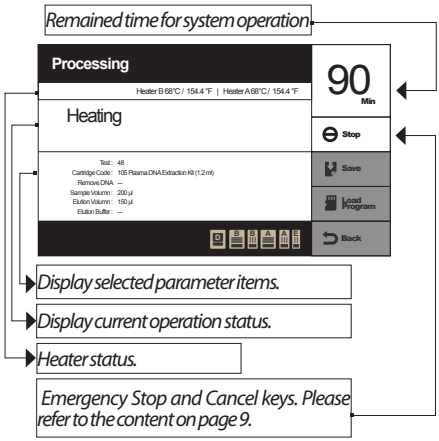
▼ **Next Step**



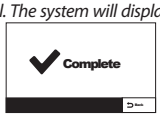
When you finish input and press Start key, the system will show a confirmation window, on which there are the parameters you input. Please press Yes to operate the system if the parameters are not incorrect. Please press No to modify incorrect parameters if you want to modify.



▼ **Next Step**



You may watch the procedure status and remained time of the current operation on the control panel. The system will display Complete page after completion.



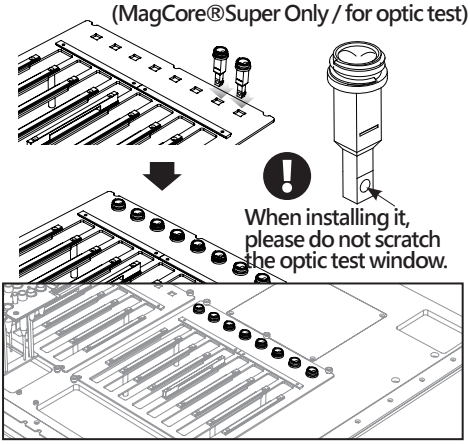


It is recommended not to open the viewing window or feeding door to prevent poor extraction results in the system operation if there is no emergency.

How to Use the Kit – MagCore® Super / MagCore® HF16 Plus

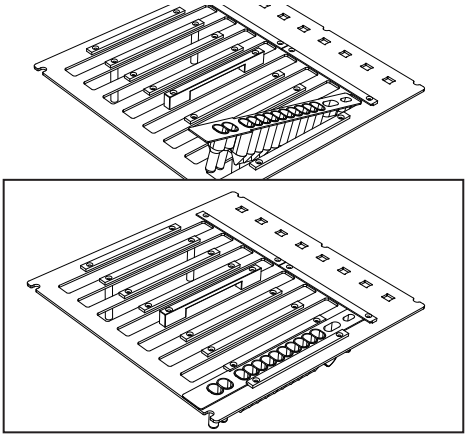
– Install MagCore® Cuvette

(MagCore® Super Only / for optic test)



1. Please put MagCore® Cuvette into the corresponding sample's well. The installation of Cuvette is directional. It is impossible to put it into the well if the direction is not correct.
2. Put the 200 µl SP tip into the W4 of the T-Rack.

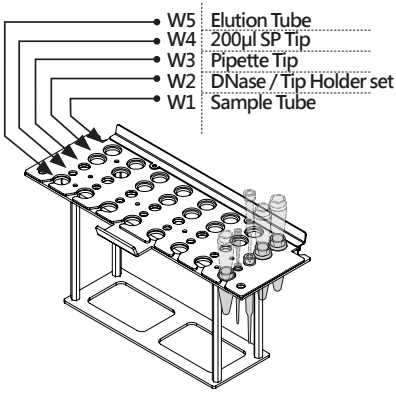
Install Reagent Cartridge



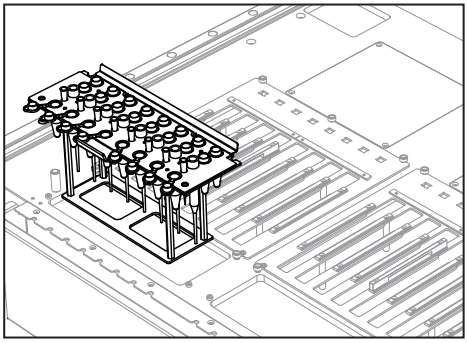
Please insert the front end of the cartridge into the space below the fixing plate of the Cartridge Rack.

Please insert the Cartridge Rack before the T-Rack.

– Install Tube, Tip



1. Put the tip into the corresponding well according to the left figure.
2. Put the T-Rack on the machine.



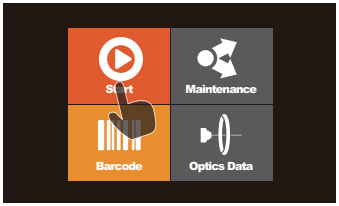
Warning :

Please do not use the Tips and Tubes which are not provided by the original manufacturer. The test result may be not correct and the machine may be damaged due to different Tips and Tubes.

– Start Programs

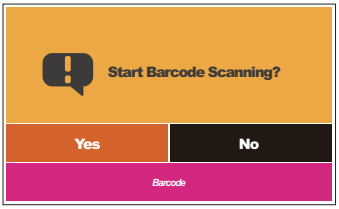
1

Please pretreat the sample according to the instructions of the user manual of the MagCore® Kit and put consumables into the machine.

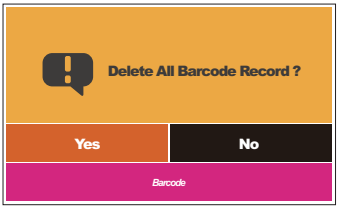


Press Start to go to the next step.

2



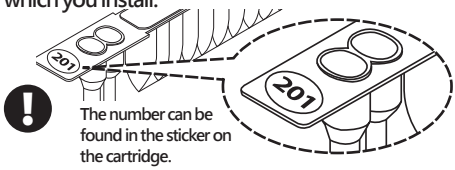
System will ask you whether or not to scan the barCode



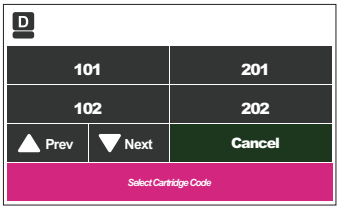
If there is a barcode record from previous test processes, the system will ask you whether or not to delete previous barcode record. If there is no barcode record, the system will not ask you. (MagCore®Super only; HF16 Plus optional)

3

Please confirm the number of the reagent set which you install.

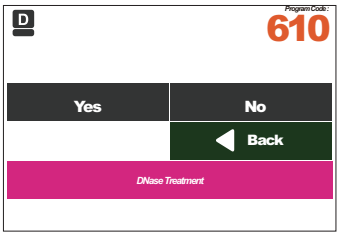


The number can be found in the sticker on the cartridge.



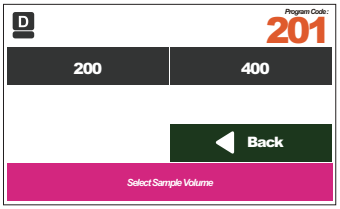
Select the number of the cartridge.

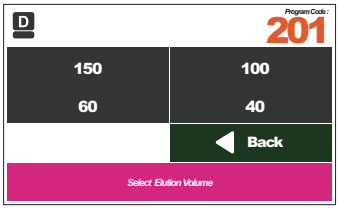
4



Select DNase Treatment. (Only for RNA kit.)

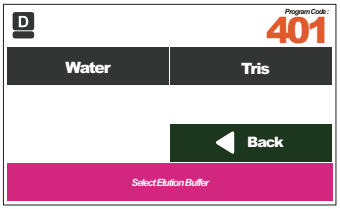
5





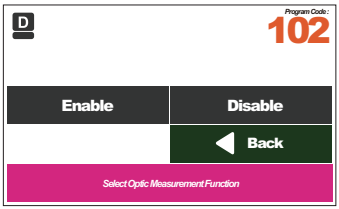
Select Sample Volume and Elution Volume.

6



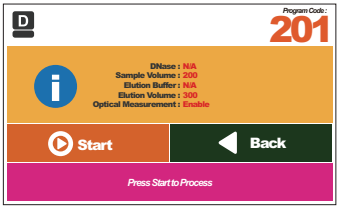
Select Elution Buffer. (Only for tissue kit.)

7



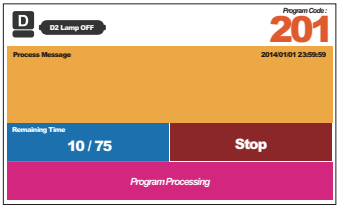
Select to enable or disable the optic measurement function. (MagCore®Super Only)
(201, 202, 211, 105 without the function)

8



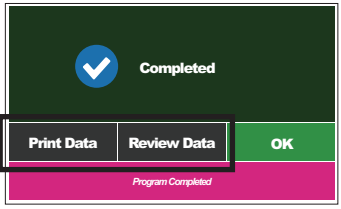
Please confirm the parameters and press the Start button to execute the program.

9



Automatic extraction process.

10



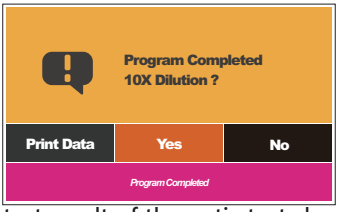
The extraction process is completed.

If you select the optic measurement funtion, you can browse, print or output the test result to a USB Flash Drive.

– If the test result of the optic measurement is over detection

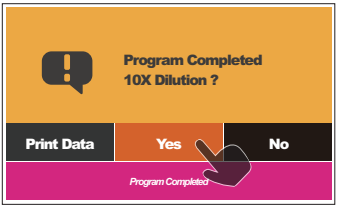
(MagCore®Super Only)

1

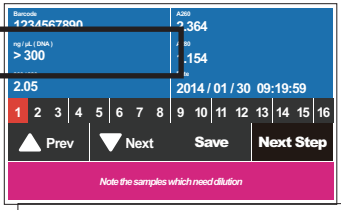


If the test result of the optic test shows the concentration is over detection (DNA >300ng/µl / RNA > 240 ng/µl), the system will ask you to dilute.

A.Please record and save the current measured data.



Please select YES.

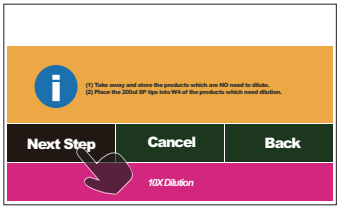


The values are DNA >300 ng/µl / RNA > 240 ng/µl

Please check the value of each sample. If there is a value showing DNA >300 ng/µl or RNA > 240 ng/µl, please record the number of the sample. It means the sample needs to be diluted. After recording the number of the slot, please insert the USB Flash Drive and press the Save button to save to current measured data. After finishing the above steps, please press Next Step.

Please save the data in the USB Flash Drive and transfer to computer, or the data in the USB Flash Drive may be overwritten later.

File name: OpticsSampleData.csv

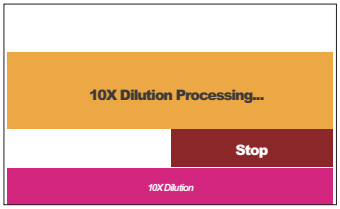


B.Prepare to dilute

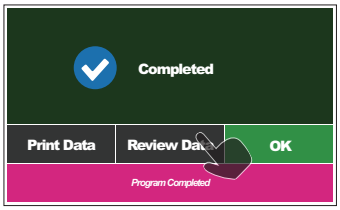
1. Please take out the elution products which are no need to be diluted.
2. Please put a new 200µl SP Tip in the W4 corresponding to the sample to be diluted.
3. Press Next Step to continue the process.



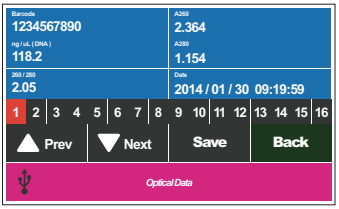
Please confirm and press Start to dilute it.



Diluting.



The diluting process is completed; please press Review Data to show the measured value after dilution.



C. Record and save the measured values.

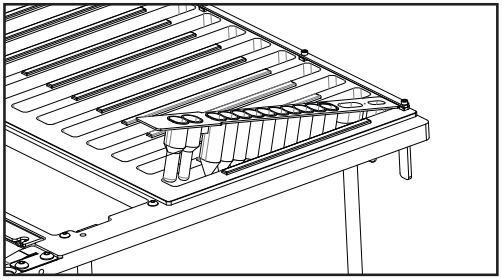
1. Insert the USB Flash Drive and then press the Save button to save the current measured values after the USB icon shows in the status bar. Please take out the USB Flash Drive and then you can perform other operations after the icon of USB Flash Drive disappears.
2. The file saved last time and this file are all data obtained from this test. If the file saved last time is lost, you can retrieve this file according to the instructions of optic test data chapter.

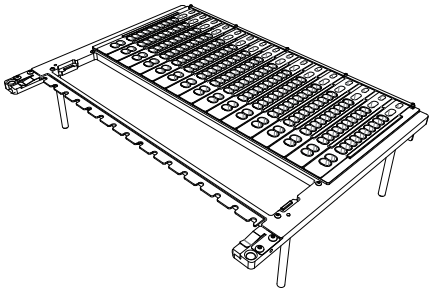
Please save the data in the USB Flash Drive and transfer to computer, or the data in the USB Flash Drive may be overwritten later.
File name:
OpticsSampleData.csv

Previous file name:
Pre_OpticsSampleData.csv

How to Use the Kit – *MagCore® Plus II*

Please insert the front end of the cartridge into the space below the fixing plate of the Cartridge Rack.



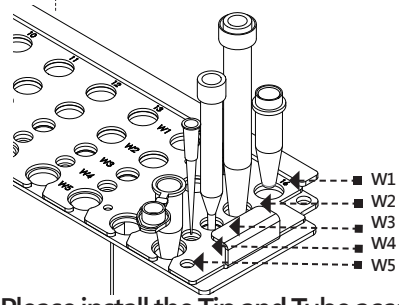


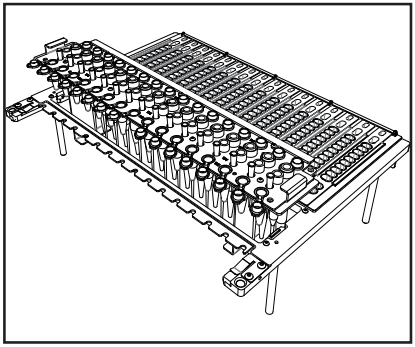
Please insert the Cartridge Rack before the T-Rack.

– Install Tube, Tip

W5	Elution Tube
W4	200µl SP Tip
W3	Pipette Tip
W2	DNase / Tip Holder set
W1	Sample Tube - FS Tip

1. Put the tip into the corresponding well according to the left figure.
2. Put the T-Rack on the machine.





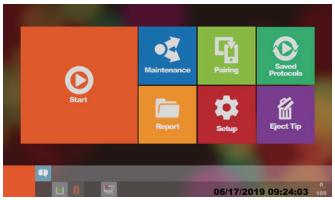
Please install the Tip and Tube according to the instructions of extraction kit user manual.

Warning :

Please do not use the Tips and Tubes which are not provided by the original manufacturer. The test result may be not correct and the machine may be damaged due to different Tips and Tubes.

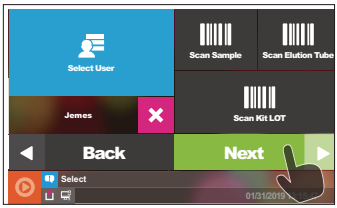
– Start Programs

Please pretreat the sample according to the instructions of the user manual of the MagCore® Kit and put consumables into the machine.



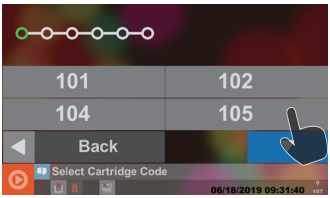
Press Start to go to the next step.

To Select User and Scan Barcodes: Please refer to Page 12 on the MagCore® Plus II Operation Manual.



Press Next to choose the code number.

Please confirm the reagent set code number to be used in the extraction.

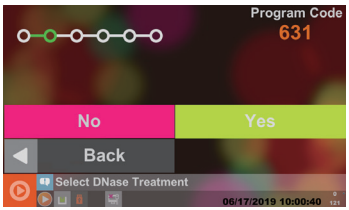


Select the number of the cartridge.



The number can be found in the sticker on the cartridge.

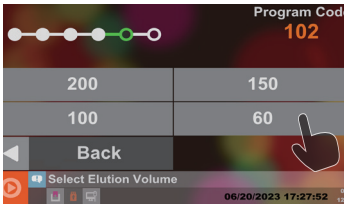
Select DNase Treatment. (Only for RNA kit.)

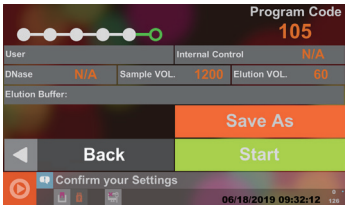


Select Sample Volume.



Select Elution Volume.

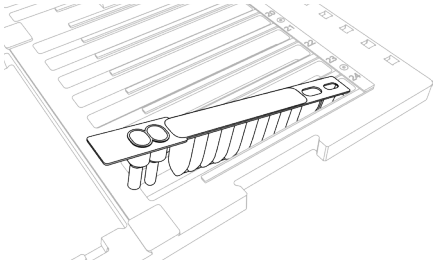




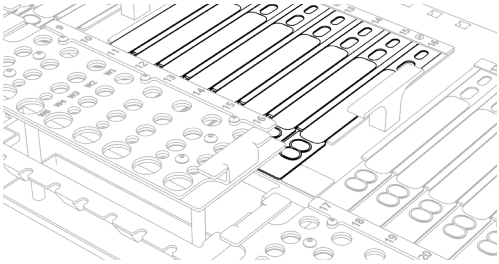
Close the door and press Start.

How to Use the Kit – MagCore® EDA

– Install reagent cartridge

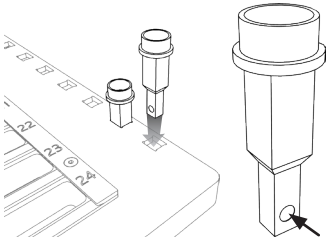


Insert the front of the cartridge into the space under the fixing rack of the cartridge Rack.



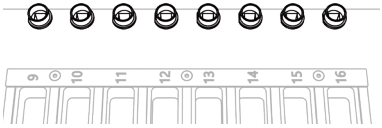
Make sure to insert the Cartridge Rack first before T-Rack.

– Install MagCore® Cuvette

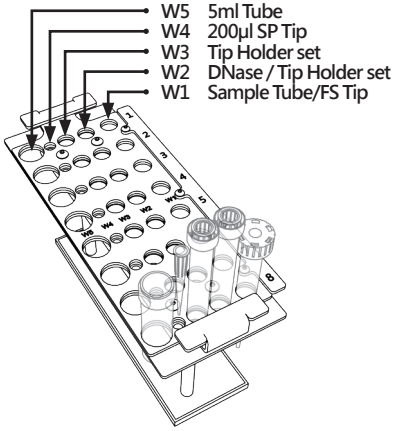


When installing, make sure not to scratch the optic test window.

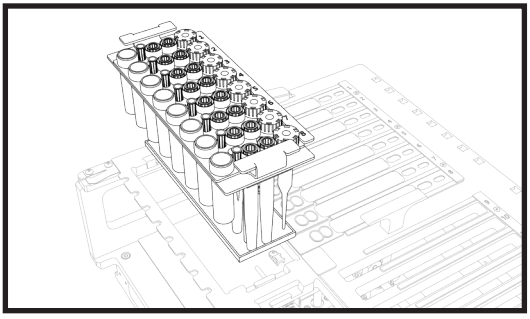
1. Place MagCore® Cuvette into the corresponding sample well. Cuvette can only be placed in one direction. It is impossible to install it into the well if the direction is not correct.
2. Place the 200µl SP tip into the W4 of the T-Rack.



– Install Tube, Tip



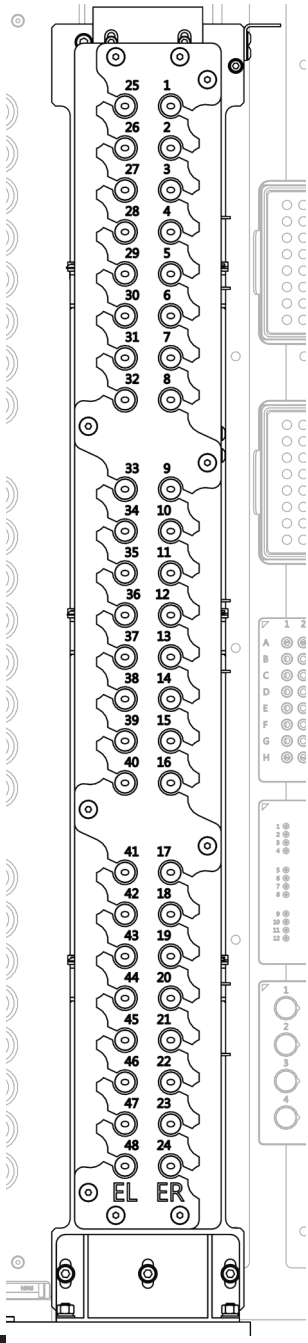
Make sure to install Tips and Tubes according to the instructions of extraction kit user manual.

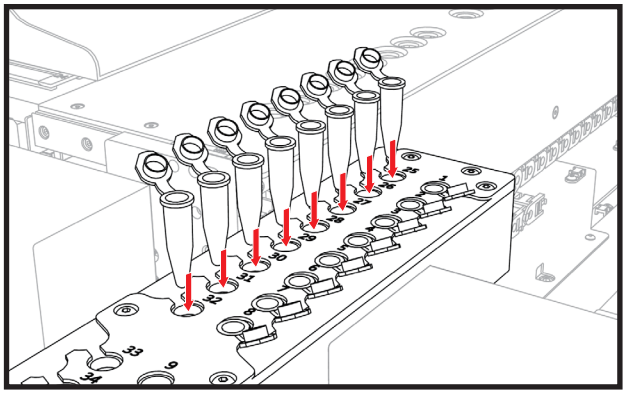


1. Place the tips into the corresponding well according to the left figure.
2. Place the T-Rack in the machine.

Warning :
Do not use the Tips and Tubes that are not provided by the original manufacturer. The test result may be incorrect and the machine may be damaged.

– Install Elution Tube

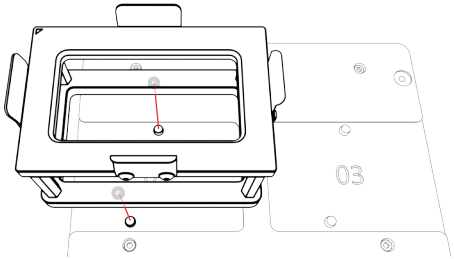


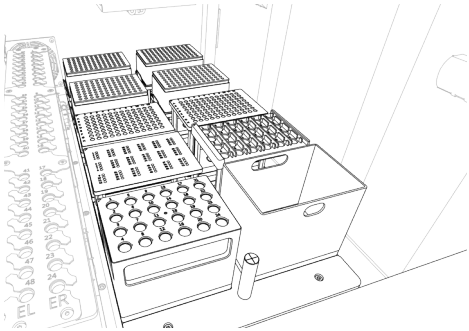


Elution Tubes must be placed sequentially into the corresponding numbered EL/ER slots based on the number of samples.

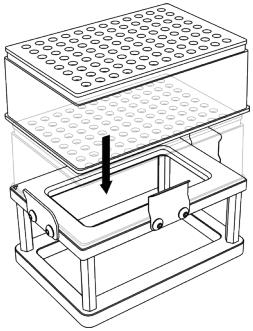
ER (Right side): for samples 1–24
EL (Left side): for samples 25–48

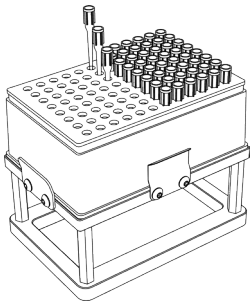
– Install PCR Rack





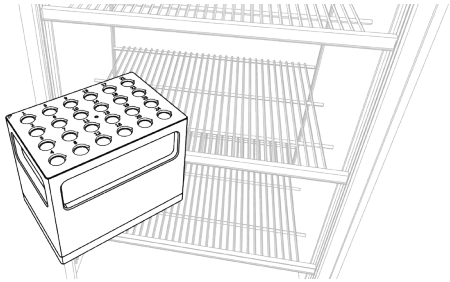
All PCR racks have set direction,
be sure the rack is facing the right direction.



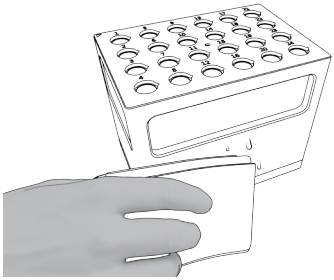


Input the tip holder to the rack and put the amount of tip you need into the 50ul Tip Rack well.

– Rack Cooling



Pre-cooling Premix Reagent Rack in a 4°C environment freezer.
When taken out, it can last up to 30 minutes.



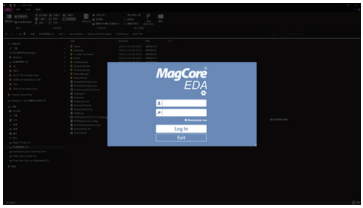
The surface might condense some water when taken out from the freezer.
Be sure to wipe out extra droplets on the Premix Reagent Rack before use.

Warning :
Do not turn the premix rack upside down.

– Start Programs

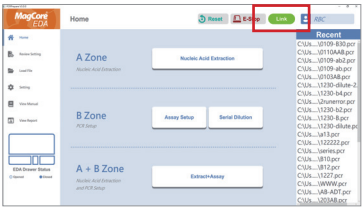
A Zone - Nucleic Acid Extration

1



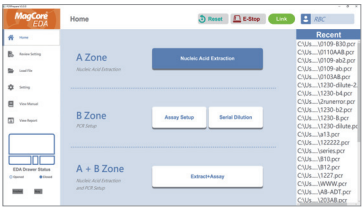
Log in to the EDA operating application.

2



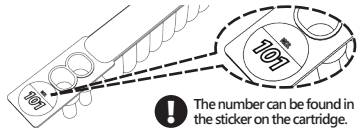
Make sure the link shows green light to indicate that it is connected to the machine.

3

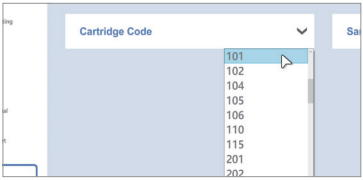


Click the ***Nucleic Acid Extration*** button to start the extraction setting.

4

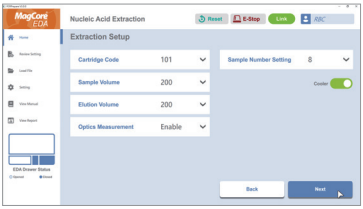


The number can be found in the sticker on the cartridge.



Confirm the code of the reagent kit you want to use, and select the kit number on the software page.

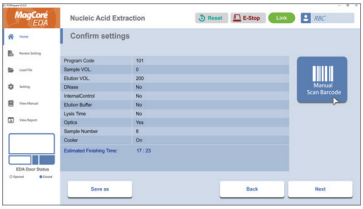
5



Setup all the required conditions and press ***Next*** to continue.

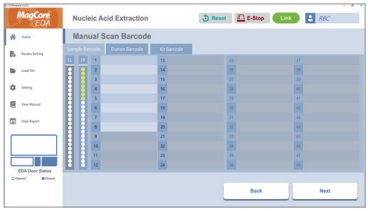
* When setting ***Sample Number***, if value >24, then the extraction will be going to two run(1~24, 25~48) for the same condition.

6



Confirm your settings, click ***Manual Scan Barcode*** to continue the process.

7

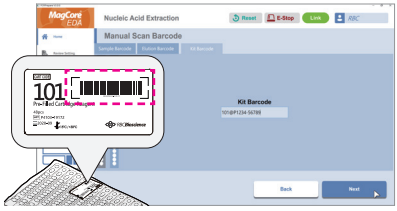


Scan ***Sample*** or ***Elution***

Use Barcode Scanner to scan the barcode of the sticker on the tube.

* If the ***Sample Number Setting*** value is >24, wait for procedure goes to second run, then you can scan 25~48 tubes.

8



Kit Barcode can be found on the kit package. After completing the scan, click on ***Next*** to continue the process.

9

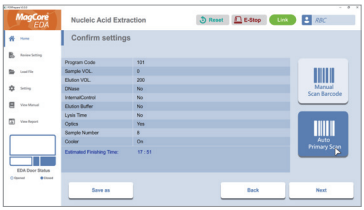


On this page, you can save the settings to make future testing more efficient.

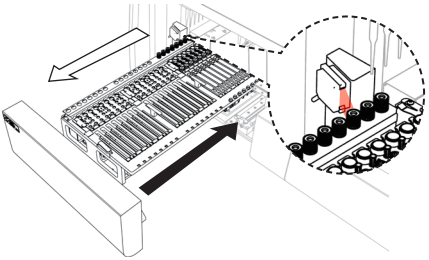
10

The EDA can automatically scan the sticker on the primary tubes (blood collection tube) if required.

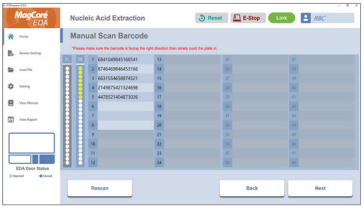
* Make sure the barcode is facing the right direction.



Click the ***Auto Primary Scan*** option.

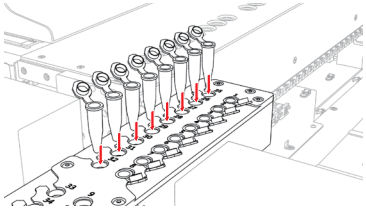


Pull out the drawer in A zone and slowly push it in.



The built-in scanner automatically scans the barcode on the primary tubes.

11



Confirm that the Elution Tubes are placed in the correct numbered EL/ER slots.

12



Confirm and check all your settings, and press ***Start*** to perform the extraction.

* Make sure the door and drawer are closed.

MagCore® Genomic DNA Whole Blood Kit (Speedy Installation)

For purification of genomic DNA from human whole blood
Applicable models: HF16, Compact, HF48, Super, HF16 Plus, Plus II, EDA

Cartridge Code 101

Cat. No. MGB400-01 // MGB400-02

Kit Contents

Check that the following parts are included in addition to the main unit:

Cat. No. MGB400-01 Contents:

Pre-filled Cartridge Reagent	*36 pcs.*
Pipet Tip plus Holder Set	*36 sets.*
Sample Tube	*36 pcs.*
Elution Tube	*36 pcs.*

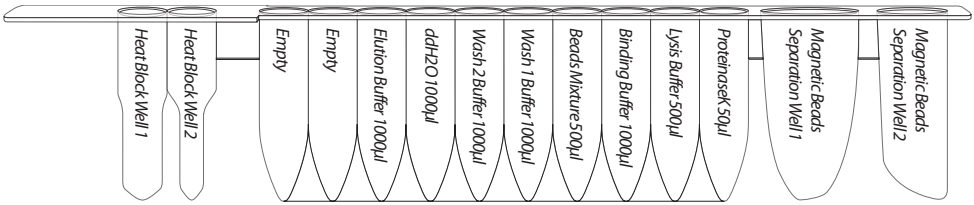
Cat. No. MGB400-02 Contents:

Pre-filled Cartridge Reagent	*96 pcs.*
Pipet Tip plus Holder Set	*96 sets.*
Sample Tube	*96 pcs.*
Elution Tube	*96 pcs.*

Storage and Stability :

1. This kit should be stored at room temperature.
2. Shelf Life: 12 Months.
Note For long-term storage of DNA/RNA, eluate should be store at -20°C/-80°C is recommended.*

Cartrige Contents :



Description

MagCore® Genomic DNA Whole Blood Kit is designed for purification of total DNA (including genomic, mitochondrial and viral DNA) from whole blood, plasma, serum, buffy coat by using MagCore® auto-extraction instrument. The method uses pre-filled cartridge which contains proteinase K and chaotropic salt to lyse cells and degrade protein.

DNA will bind to cellulose coated Magnetic Beads . After washing off the contaminants, the purified DNA is eluted by low salt elution buffer. Purified DNA of approximately 20-30 kb in length is suitable for PCR or other enzymatic reactions.

Applications

Using magnetic-particle technology to purify genomic DNA from fresh whole blood. The purified genomic DNA can be directly used for downstream application such as quantitative PCR, restriction enzyme digestion, southern blotting, etc.

Whole Blood Protocol

1. Pipet 200/400µl of equilibrated whole blood sample to MagCore® Sample Tube.
2. Put the prepared Sample Tube into the correct well of T-Rack.
3. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
4. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
5. Run Code 101 program at MagCore®.

Optional Step: RNA Degradation

If RNA-Free genomic DNA is required, perform these optional steps.

1. Add 4µl RNase A (50mg/ml; not provided) into the sample lysate.
2. Incubate the sample at room temperature for 20min.

Buffy Coat Modify Protocol

RBC Lysis Buffer:

150 mM NH_4Cl, 10mM $KHCO_3$, 0.1mM EDTA.

Buffy Coat Preparation by RBC Lysis

1. Take 600 ~ 700µl whole blood into 2ml microcentrifuge tube.

Don't take more than 700µl whole blood sample; it will cause the leakage situation during process.

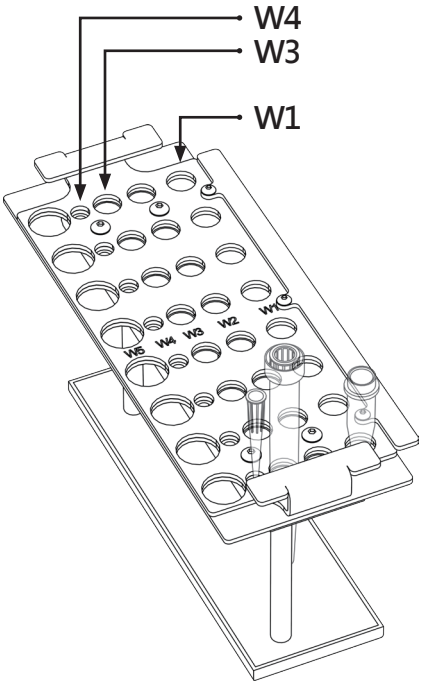
2. Add 1ml RBC Lysis Buffer and mix the buffer and whole blood sample by upside down.
3. Shake the mixture, 100rpm 5mins.
4. Centrifuge the mixture at 13,000 rpm for 1 min.
5. Discard supernatant.
6. Repeat steps 2 ~ 5 to wash the sample again.
7. Add 400µl RBC Lysis Buffer to resuspend the pellet and transfer into MagCore® Sample Tube.
8. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
9. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
10. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
11. Run Code 101 program at MagCore®.

Buffy Coat Preparation by Centrifugation

1. Take 2 ~ 5ml whole blood sample and centrifuge at 1,500rpm 10mins.
2. Use plastic drop to take white buffy coat layer in the middle of whole blood sample.
3. Move the buffy coat into new microcentrifuge tube.
4. Take 80 ~ 100µl buffy coat sample into MagCore® Sample Tube and add RBC Lysis Buffer or PBS until 400µl.
5. Put the prepared Sample Tube into the correct well of T-Rack.
6. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
7. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
8. Run Code 101 program at MagCore®.

Note : We suggest to select 150 ~200µl elution buffer, it can get better elution efficiency in both of these methods.

EDA T-Rack Tube and Tip Position Configuration



W5	Empty
W4	SP Tip (for Optical Detection)
W3	Tip Holder set
W2	Empty
W1	Sample Tube

MagCore® Genomic DNA Whole Blood Kit

For purification of genomic DNA from human whole blood
Applicable models: HF16, Compact, HF48, Super, HF16 Plus, Plus II, EDA

Cartridge Code 102 (Use code 119 for fast protocol)

Cat. No. MGB400-03 // MGB400-04

Kit Contents

Check that the following parts are included in addition to the main unit:

Cat. No. MGB400-03 Contents:

Pre-filled Cartridge Reagent	*36 pcs.*
Pipet Tip plus Holder Set	*36 sets.*
Sample Tube	*36 pcs.*
Elution Tube	*36 pcs.*
Proteinase K(11mg)	*2 pcs.*
PK Storage Buffer	*2 pcs.*

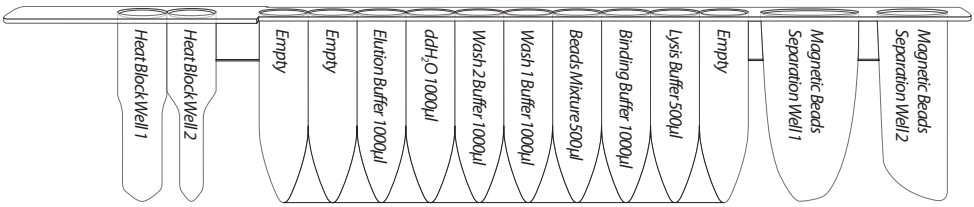
Cat. No. MGB400-04 Contents:

Pre-filled Cartridge Reagent	*96 pcs.*
Pipet Tip plus Holder Set	*96 sets.*
Sample Tube	*96 pcs.*
Elution Tube	*96 pcs.*
Proteinase K(11mg)	*4 pcs.*
PK Storage Buffer	*4 pcs.*

Storage and Stability :

1. This kit should be stored at room temperature.
2. Proteinase K should be stored at 2-8 ℃ upon arrival.
3. Shelf Life: 18 Months.
Note For long-term storage of DNA/RNA, eluate should be store at -20℃/-80℃ is recommended.*

Cartridge Contents :



Description

MagCore® Genomic DNA Whole Blood Kit is designed for purification of total DNA (including genomic, mitochondrial and viral DNA) from whole blood, plasma, serum, buffy coat by using MagCore® auto-extraction instrument. The method uses a pre-filled cartridge which contains chaotropic salt to lyse cells and degrade protein. DNA will bind to cellulose coated magnetic beads. After washing off the contaminants, the purified DNA is eluted by low salt elution buffer. Purified DNA of approximately 20-30 kb in length is suitable for PCR or other enzymatic reactions.

Applications

Using magnetic-particle technology to purify genomic DNA from fresh whole blood. The purified genomic DNA can be directly used for downstream application such as quantitative PCR, restriction enzyme digestion, southern blotting, etc.

Preparation Before Using

1. Add 1.1ml PK Storage Buffer to the Proteinase K tube and mix by vortexing. Store prepared Proteinase K (10mg/ml) at 2-8℃

Whole Blood Protocol

1. Take a new Sample Tube and add 20µl of Proteinase K (10mg/ml) to 200µl of equilibrated whole blood sample.

(40µl Proteinase K to 400µl whole blood).

2. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
3. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
4. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18). Run Code 102 program at MagCore®.
5. For a faster running time option, run Code 119 (Super, HF16 Plus, PlusII, EDA) program at MagCore®. (Fast protocol of Code 119 leads to an decrease about 30% in the concentration. Select the appropriate code based on your needs)

Optional Step: RNA Degradation

If RNA-Free genomic DNA is required, perform these optional steps before adding Proteinase K.

1. Add 4µl RNase A (50mg/ml; not provided) into the sample lysate.
2. Incubate the sample at room temperature for 20mins.

Buffy Coat Modify Protocol

RBC Lysis Buffer:

150mM NH_4Cl, 10mM $KHCO_3$, 0.1mM EDTA.

Buffy Coat Preparation by RBC Lysis

1. Take 600 ~ 700µl whole blood into 2ml microcentrifuge tube.

Don't take more than 700µl whole blood sample; it will cause leaking during process.

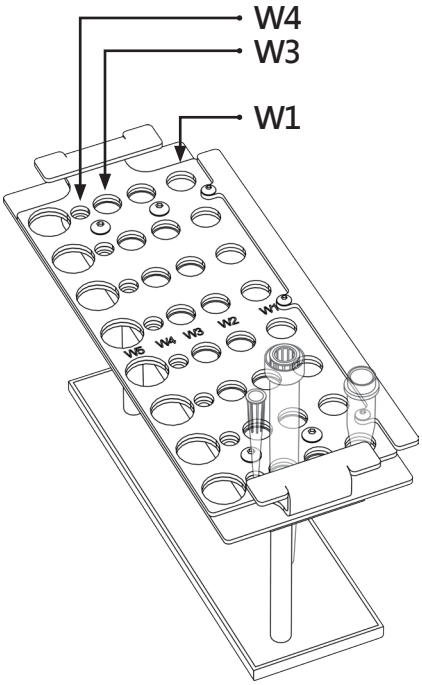
2. Add 1ml RBC Lysis Buffer and mix the buffer and whole blood sample doing upside down movements.
3. Shake the mixture at 100 rpm for 5 mins.
4. Centrifuge the mixture at 13,000 rpm for 1 min.
5. Discard supernatant.
6. Repeat steps 2 ~ 5 to wash the sample again.
7. Add 400µl RBC Lysis Buffer and add 40µl of proteinase K to resuspend the pellet and transfer into MagCore® Sample Tube.
8. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
9. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
10. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
11. Run Code 102 program at MagCore®.

Buffy Coat Preparation by Centrifugation

1. Take 2 ~ 5ml whole blood sample and centrifuge at 1,500 rpm for 10 mins.
2. Use plastic drop to take white buffy coat layer in the middle of whole blood sample.
3. Move the buffy coat into new microcentrifuge tube.
4. Take 80 ~ 100µl buffy coat sample into MagCore® Sample Tube and add RBC Lysis Buffer or PBS until 400µl then add 40µl of proteinase K.
5. Put the prepared Sample Tube into the correct well of T-Rack.
6. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
7. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
8. Run Code 102 program at MagCore®.

Note : We suggest to select 150 ~200µl elution buffer, it can get better elution efficiency in both of these methods.

EDA T-Rack Tube and Tip Position Configuration



W5	Empty
W4	SP Tip (for Optical Detection)
W3	Tip Holder set
W2	Empty
W1	Sample Tube

MagCore® Genomic DNA Large Volume Whole Blood Kit

For purification of genomic DNA from human whole blood (1.2 ml)
Applicable models: HF16, Compact, HF48, Super, HF16 Plus, Plus II, EDA

Cartridge Code 104

Cat. No. MGB-1200

Kit Contents

Check that the following parts are included in addition to the main unit:

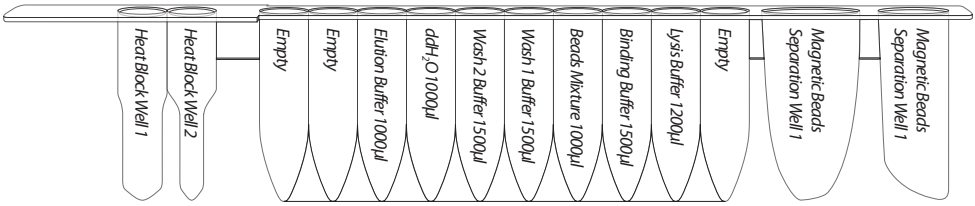
Cat. No. MGB-1200 Contents:

Pre-filled Cartridge Reagent	*96 pcs.*
Pipet Tip plus Holder Set	*96 sets.*
Sample Tube	*96 pcs.*
Elution Tube	*96 pcs.*
Proteinase K(11mg)	*8 pcs.*
PK Storage Buffer	*8 pcs.*

Storage and Stability :

1. This kit should be stored at room temperature.
2. Proteinase K should be stored at 2-8 ℃ upon arrival.
3. Shelf Life: 18 Months.
Note For long-term storage of DNA/RNA, eluate should be store at -20℃/-80℃ is recommended.*

Cartridge Contents :



Description

MagCore® Genomic DNA Large Volume Whole Blood kit is designed to extract genomic DNA from 1.2ml fresh whole blood via MagCore® auto-extraction instrument. The kit contains all required reagents and labware for automated purification using magnetic-particle technology. Combination of an easy program selection of code number 104 in MagCore® and using MagCore® Genomic DNA Large Volume Whole Blood Kit can extract high quality genomic DNA.

Applications

Using magnetic-particle technology to purify genomic DNA from 1.2ml fresh whole blood. The purified genomic DNA can be directly used for downstream application such as quantitative PCR, restriction enzyme digestion, southern blotting, etc.

Preparation Before Using

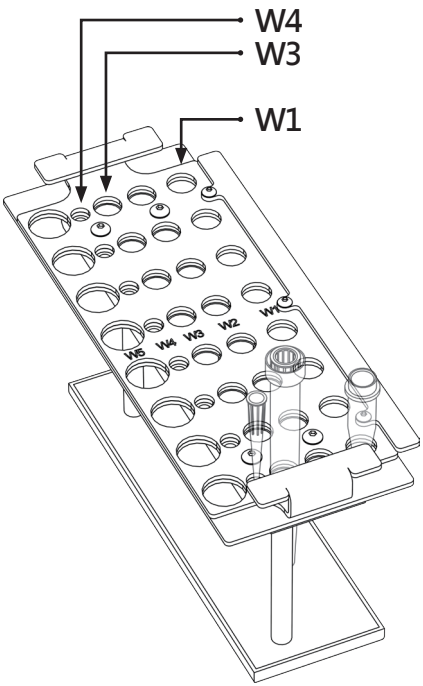
1. Add 1.1ml PK Storage Buffer to the Proteinase K tube and mix by vortexing. Store prepared Proteinase K (10mg/ml) at 2-8℃

Protocol

1. Pipet Proteinase K 80 µl into the MagCore® Sample Tubes.
2. Add 1200 µl whole blood into the prepared Sample Tube.
3. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
4. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
5. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
6. Run Code 104 program at MagCore®.

Note: Beads or precipitate in eluent might be present in viscous samples. This situation will not affect the yield, purity and downstream applications. Reduction of sample volume or simple centrifugation will remove the residual beads.

EDA T-Rack Tube and Tip Position Configuration



W5	Empty
W4	SP Tip (for Optical Detection)
W3	Tip Holder set
W2	Empty
W1	Sample Tube

MagCore® Plasma DNA Extraction Kit (1.2 ml)

For extraction of free circulating DNA from human plasma or serum.
Applicable models: HF16, Compact, HF48, Super, HF16 Plus, Plus II, EDA

Cartridge Code 105

Cat. No. MPD-1200

Kit Contents

Check that the following parts are included in addition to the main unit:

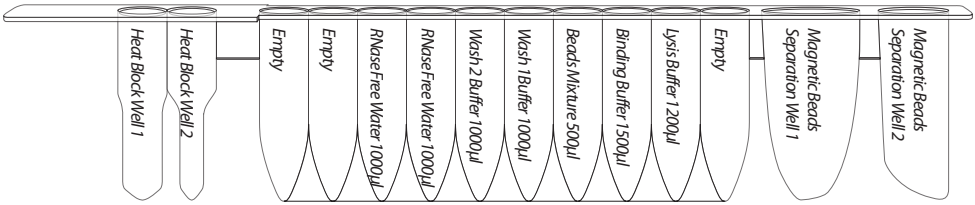
Cat. No. MPD-1200 Contents:

Pre-filled Cartridge Reagent	*96 pcs.*
Pipet Tip plus Holder Set	*96 sets.*
Sample Tube	*96 pcs.*
Elution Tube	*96 pcs.*
Proteinase K(11mg)	*2 pcs.*
PK Storage Buffer	*2 pcs.*

Storage and Stability :

1. This kit should be stored at room temperature.
2. Proteinase K should be store at 2-8 ℃ upon arrival.
3. Shelf Life : 18 Months.
Note For long-term storage of DNA/RNA, eluate should be store at -20℃/-80℃ is recommended.*

Cartridge Contents :



Description

MagCore® Plasma DNA Extraction Kit is designed for purification of DNA from 1.2 ml of serum, plasma, cell-free body fluids by using MagCore® auto-extraction instrument. With all the kit components of plastic consumables that are DNase/ RNase -Free pretreated and with individual processing track for each loaded sample, this system eliminates all possible cross contamination between samples. Built-in protocol with flexibility in sample source volumes, plasma DNA can be extracted using this kit in a fast and economical way.

Applications

The purified total nucleic acid is suitable for highly sensitive and quantitative PCR. MagCore® Plasma DNA Extraction Kit has been proven with various genomic analyses as downstream applications.

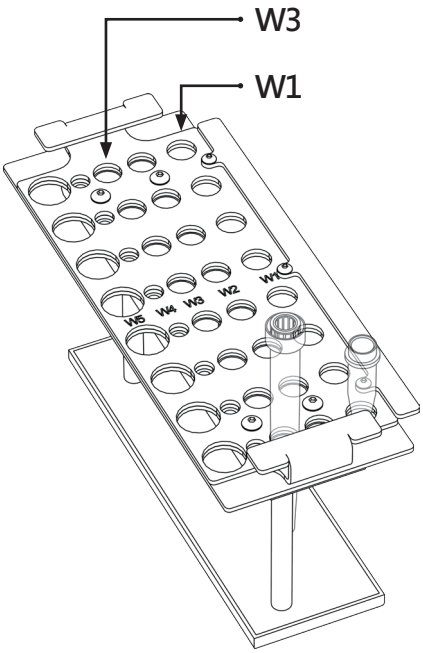
Preparation Before Using

1. Add 1.1ml PK Storage Buffer to the Proteinase K tube and mix by vortexing. Store prepared Proteinase K (10mg/ml) at 2-8℃

Protocol

1. Pipet 20µl proteinase K(10mg/ml) into the MagCore® Sample Tubes.
2. Add 1200µl of serum, plasma, cell-free body fluids into the prepared Sample Tube.
3. After Proteinase K and Plasma mixing, stand for 10-20 min at room temperature, then centrifuge at 15,000 x g for 5 min and transfer clear plasma to new tube.
4. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
5. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
6. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
7. Run Code 105 program at MagCore®.

EDA T-Rack Tube and Tip Position Configuration



W5	Empty
W4	Empty
W3	Tip Holder set
W2	Empty
W1	Sample Tube

MagCore® Genomic DNA Whole Blood Kit (For Genotyping)

Purify genomic DNA from human whole blood for genotyping.
Applicable models: HF16, Compact, HF48, Super, HF16 Plus, Plus II, EDA

Cartridge Code 106

Cat. No. MGB400-07 // MGB400-08

Kit Contents

Check that the following parts are included in addition to the main unit:

Cat. No. MGB400-07 Contents:

Pre-filled Cartridge Reagent	*36 pcs.*
Pipet Tip plus Holder Set	*36 sets.*
Sample Tube	*36 pcs.*
Elution Tube	*36 pcs.*
Proteinase K(11mg)	*2 pcs.*
PK Storage Buffer	*2 pcs.*

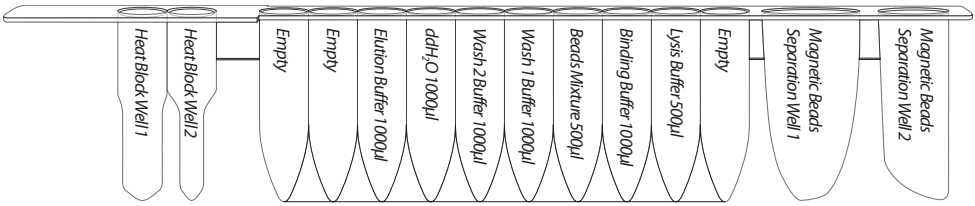
Cat. No. MGB400-08 Contents:

Pre-filled Cartridge Reagent	*96 pcs.*
Pipet Tip plus Holder Set	*96 sets.*
Sample Tube	*96 pcs.*
Elution Tube	*96 pcs.*
Proteinase K(11mg)	*4 pcs.*
PK Storage Buffer	*4 pcs.*

Storage and Stability :

1. This kit should be stored at room temperature.
2. Proteinase K should be stored at 2-8 ℃ upon arrival
3. Shelf Life: 18 Months.
Note For long-term storage of DNA/RNA, eluate should be store at -20°C/-80°C is recommended.*

Cartridge Contents :



Description

This kit is designed for genotyping application, you can get completed gDNA from eluent. We modified the reagent components and the machine operation to make this kit more suitable for genotyping. The pre-filled cartridge contains chaotropic salt and guanidine hydrochloride for cell lysis and protein degradation. The chaotropic salt helps the strong binding of DNA and cellulose coated magnetic beads. After the removal of contaminants, the high quality DNA is eluted by low salt elution buffer or water. Purified DNA of approximately 20-30 kb in length is suitable for genotyping or other applications.

Applications

Use magnetic-particle technology to purify genomic DNA from whole blood and buffy coat. The purified genomic DNA can be directly used for downstream application such as genotyping, PCR, real-time PCR, restriction enzyme digestion, southern blotting, etc.

Preparation Before Using

1. Add 1.1ml PK Storage Buffer to the Proteinase K tube and mix by vortexing. Store prepared Proteinase K (10mg/ml) at 2-8 ℃

Whole Blood Protocol

1. Take a new Sample Tube and add 20µl of Proteinase K (10mg/ml) to 200µl of equilibrated whole blood sample. (40µl Proteinase K to 400µl whole blood).
2. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
3. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
4. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18). Run Code 106 program at MagCore®.

Optional Step: RNA Degradation

If RNA-Free genomic DNA is required, perform these optional steps before adding Proteinase K.

1. Add 4µl RNase A (50mg/ml; not provided) into the sample lysate.
2. Incubate the sample at room temperature for 20min

Buffy Coat modify Protocol

RBC Lysis Buffer:

150mM NH_4Cl, 10mM $KHCO_3$, 0.1mM EDTA.

Buffy Coat Preparation by RBC Lysis

1. Take 600 ~ 700µl whole blood into 2ml microcentrifuge tube.

Don't take more than 700µl whole blood sample; it will cause leaking during process.

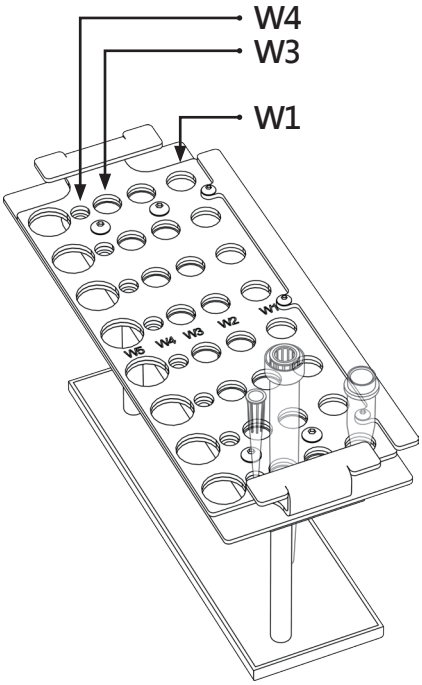
2. Add 1ml RBC Lysis Buffer and mix the buffer and whole blood sample doing upside down movements.
3. hake the mixture at 100 rpm for 5 mins.
4. Centrifuge the mixture at 13,000 rpm for 1 min.
5. Discard supernatant.
6. Repeat steps 2 ~ 5 to wash the sample again.
7. Add 400µl RBC Lysis Buffer and 40µl proteinase K to resuspend the pellet and transfer into MagCore® Sample Tube.
8. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
9. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
10. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
11. Run Code 106 program at MagCore®.

Buffy Coat Preparation by Centrifugation

1. Take 2 ~ 5ml whole blood sample and centrifuge at 1,500 rpm for 10 mins.
2. Use plastic drop to take white buffy coat layer in the middle of whole blood sample.
3. Move the buffy coat into new microcentrifuge tube.
4. Take 80 ~ 100µl buffy coat sample into MagCore® Sample Tube and add RBC Lysis Buffer or PBS until 400µl then add 40µl of proteinase K.
5. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
6. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
7. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
8. Run Code 106 program at MagCore®.

Note : We suggest to select 150 ~200µl elution buffer, it can get better elution efficiency in both of these methods.

EDA T-Rack Tube and Tip Position Configuration



W5	Empty
W4	SP Tip (for Optical Detection)
W3	Tip Holder set
W2	Empty
W1	Sample Tube

MagCore® Cultured Cells DNA Kit

For extraction of genomic DNA from cultured cells and amniotic fluid.
Applicable models: HF16, Compact, HF48, Super, HF16 Plus, Plus II, EDA

Cartridge Code 110

Cat. No. MCC-01 // MCC-02

Kit Contents

Check that the following parts are included in addition to the main unit:

Cat. No. MCC-01 Contents:

Pre-filled Cartridge Reagent	*36 pcs.*
Pipet Tip plus Holder Set	*36 sets.*
Sample Tube	*36 pcs.*
Elution Tube	*36 pcs.*
Proteinase K(11mg)	*1 pcs.*
PK Storage Buffer	*1 pcs.*

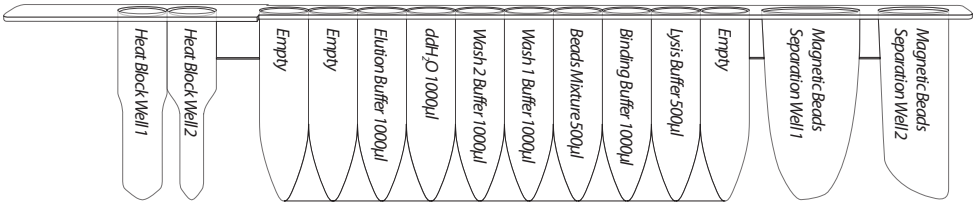
Cat. No. MCC-02 Contents:

Pre-filled Cartridge Reagent	*96 pcs.*
Pipet Tip plus Holder Set	*96 sets.*
Sample Tube	*96 pcs.*
Elution Tube	*96 pcs.*
Proteinase K(11mg)	*2 pcs.*
PK Storage Buffer	*2 pcs.*

Storage and Stability:

1. This kit should be stored at room temperature.
2. Proteinase K should be stored at 2-8℃ upon arrival.
3. Shelf Life: 18 Months.
Note For long-term storage of DNA/RNA, eluate should be store at -20℃/-80℃ is recommended.*

Cartrige Contents :



Description

MagCore® Cultured cells DNA Kit is designed to extract genomic DNA from up to $5x10^6$ cultured cells via MagCore® autoextraction instrument. The kit contains all required reagents and labware for automated purification using magneticparticle technology. Easy select program code number 110 in MagCore® and combine using MagCore® Cultured Cells DNA Kit to extract high quality genomic DNA.

Applications

Using magnetic-particle technology to purify genomic DNA from $5x10^6$ cultured cells. The purified genomic DNA can be directly used for downstream applications such as quantitative PCR, restriction enzyme digestion, southern blotting, etc.

Preparation Before Using

1. Add 1.1ml PK Storage Buffer to the Proteinase K tube and mix by vortexing. Store prepared Proteinase K (10mg/ml) at 2-8 ℃
2. Ensure PBS buffer have been prepared for resuspend cell pellet.

Protocol

Sample Preparation

A. Cells grown in suspension

Cells grown in suspension (up to 5 x 10^6 cells). Determine the number of cells. Centrifuge the appropriate number of cells for 5 min. at 300 x g in a 1.5 ml microcentrifuge tube (not provided). Remove the supernatant completely and discard. Continue with MagCore® Operation step 1.

B. Cells grown in a monolayer

Cells grown in a monolayer (up to 5 x 10^6 cells). Cells grown in a monolayer can be detached from the culture flask by either trypsinization or using a cell scraper.

To trypsinize cells:

Determine the number of cells. Aspirate the medium and wash cells with PBS (not provided). Aspirate the PBS, and add 0.10–0.25% trypsin. After cells have detached from the dish or flask, collect them in medium, and transfer the appropriate number of cells(up to 5 x 10^6 cells) to a 1.5 ml microcentrifuge tube (not provided). Centrifuge for 5 min. at 300 x g. Remove the supernatant completely and discard taking care to not to disturb the cell pellet. Continue with MagCore® Operation step 1.

Using a cell scraper:

Detach cells from the dish or flask. Transfer the appropriate number of cells (up to 5 x 10^6 cells) to a 1.5 ml microcentrifuge tube and centrifuge for 5 min. at 300 x g. Remove the supernatant completely and discard taking care to not to disturb the cell pellet. Continue with MagCore® Operation step 1.

MagCore® Operation

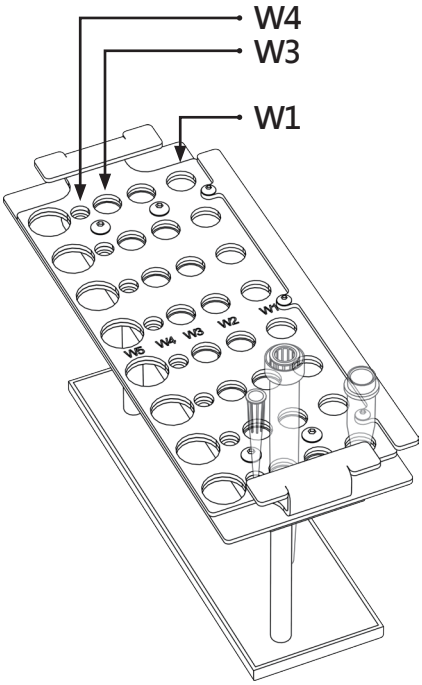
1. Resuspend cell pellet with PBS Buffer to a final volume of 200 µl.
2. Transfer cell mixture 200 µl and add 20 µl Proteinase K into the MagCore® Sample Tubes.
3. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
4. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
5. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
6. Run Code 110 program at MagCore®.

Amniotic Fluid Protocol

Sample Preparation

1. Harvest cells from 2 ml amniotic fluid of 16~18 weeks by centrifugation for 10 minutes at 3000 rpm and discard the supernatant.
2. Add 200µl GT Buffer (not provided) to the tube and resuspend the cell pellet, then transfer mixture to new microcentrifuge tube.
3. Add 5~10µl ProteinaseK (10mg/ml) to the sample. Vortex for 5 seconds to mix sample.
4. Incubate at 56℃ for 10 minutes until the sample lysate is clear. During incubation, invert the tube every 3 minutes.
5. Spin down the sample and apply for MagCore®.

EDA T-Rack Tube and Tip Position Configuration



W5	Empty
W4	SP Tip (for Optical Detection)
W3	Tip Holder set
W2	Empty
W1	Sample Tube

MagCore® Circulating DNA Large Volume Kit (4 ml)

For extraction of free circulating DNA from human plasma or serum.
Applicable models: HF16, Compact, HF48, Super, HF16 Plus, Plus II, EDA

Cartridge Code 115

Cat. No. MPD4000-01 / / MPD4000-03

Kit Contents

Check that the following parts are included in addition to the main unit:

Cat. No. MPD4000-01 Contents:

Pre-filled Cartridge Reagent	*24 pcs.*
Pipet Tip plus Holder Set	*24 sets.*
5ml Sample Tube	*24 pcs.*
Elution Tube	*24 pcs.*
Proteinase K(11mg)	*3 pcs.*
PK Storage Buffer	*3 pcs.*

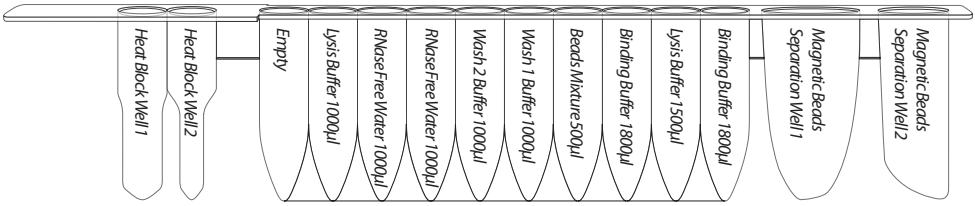
Cat. No. MPD4000-03 Contents:

Pre-filled Cartridge Reagent	*96 pcs.*
Pipet Tip plus Holder Set	*96 sets.*
5ml Sample Tube	*96 pcs.*
Elution Tube	*96 pcs.*
Proteinase K(11mg)	*10 pcs.*
PK Storage Buffer	*10 pcs.*

Storage and Stability :

1. This kit should be stored at room temperature.
2. Proteinase K should be stored at 2-8℃ upon arrival.
3. Shelf Life: 18 Months.
Note For long-term storage of DNA/RNA, eluate should be store at -20℃/-80℃ is recommended.*

Cartrige Contents :



Description

MagCore® Circulating DNA large volume kit is designed for purification of DNA from 3 ml or 4 ml of serum, plasma, cell-free body fluids by using MagCore® auto-extraction instrument. With all the kit components of plastic consumables are DNase/ RNase –Free pretreated, and individual processing track for each loaded samples, this system eliminates all possible cross contamination between samples. Built-in protocol with flexibility in sample source volumes, plasma DNA can be extracted using this kit in a fast and economical way.

Applications

The purified total nucleic acid is suitable for highly sensitive and quantitative PCR. MagCore® Circulating DNA Large Volume Kit has been proven with various genomic analyses as downstream applications.

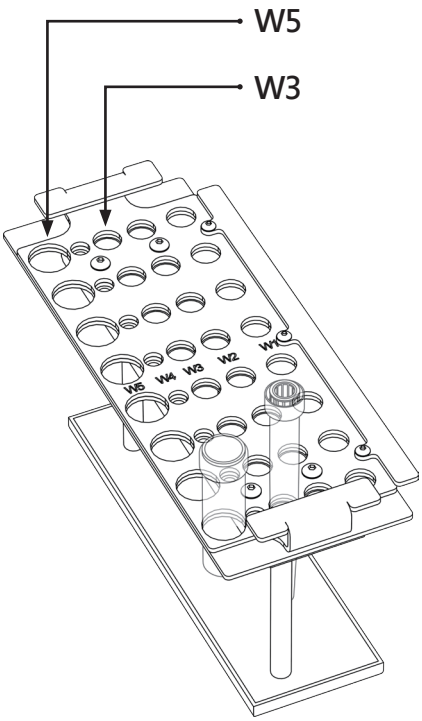
Preparation Before Using

Add 1.1ml PK Storage Buffer to the Proteinase K tube and mix by vortexing. Store prepared Proteinase K (10mg/ml) at 2-8℃

Protocol

1. *Add 4 ml of serum, plasma, cell-free body fluids (If the volume is less than 4 ml, add to 4 ml with 1X PBS.) into a DNase-free 15 ml tube (not provided).*
2. *Add 100 µl proteinase K (10mg/ml) into 15 ml tube and mix by vortexing.*
3. *After Proteinase K and Plasma mixing, stand for 10-15 min at 37℃ (recommend temperature) or room temperature, then centrifuge at 12,000 x g for 5 min and transfer clear plasma to 5 ml Sample Tube.*
4. *Put the prepared 5ml Sample Tube into the correct well of T-Rack. (see page 5-18)*
5. *Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.*
6. *Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).*
7. *Run Code 115 program at MagCore®.*

EDA T-Rack Tube and Tip Position Configuration



W5	5ml Sample Tube
W4	Empty
W3	Tip Holder set
W2	Empty
W1	Empty

MagCore® Viral Nucleic Acid Extraction Kit

For extraction of viral DNA/RNA from serum, plasma, saliva and cell-free body fluids
Applicable models: HF16, Compact, HF48, Super, HF16 Plus, Plus II, EDA

Cartridge Code 202

Cat. No. MVN400-03 // MVN400-04

Kit Contents

Check that the following parts are included in addition to the main unit:

Cat. No. MVN400-03 Contents:

Pre-filled Cartridge Reagent	*36 pcs.*
Pipet Tip plus Holder Set	*36 sets.*
Sample Tube	*36 pcs.*
Elution Tube	*36 pcs.*
Carrier RNA(1mg)	*1 pcs.*
RNase Free Water	*1 pcs.*
Proteinase K(11mg)	*1 pcs.*
PK Storage Buffer	*1 pcs.*

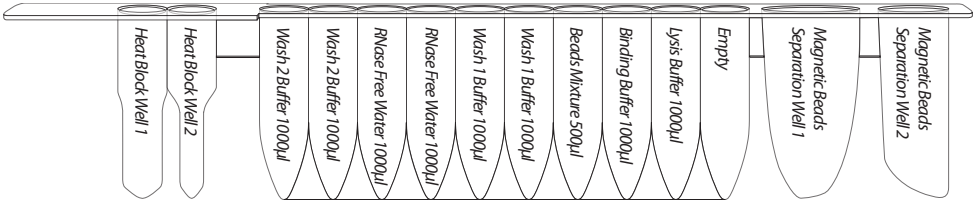
Cat. No. MVN400-04 Contents:

Pre-filled Cartridge Reagent	*96 pcs.*
Pipet Tip plus Holder Set	*96 sets.*
Sample Tube	*96 pcs.*
Elution Tube	*96 pcs.*
Carrier RNA(1mg)	*1 pcs.*
RNase Free Water	*1 pcs.*
Proteinase K(11mg)	*2 pcs.*
PK Storage Buffer	*2 pcs.*

Storage and Stability :

1. This kit should be stored at room temperature.
2. Carrier RNA should be stored at -20°C when mixing with RNase Free Water / Proteinase K should be stored at 2-8 °C upon arrival.
3. Shelf Life: 18 Months.
Note For long-term storage of DNA/RNA, eluate should be store at -20°C/-80°C is recommended.*

Cartridge Contents :



Description

MagCore® Viral Nucleic Acid Extraction Kit is designed to extract viral DNA and RNA via MagCore® auto-extraction instrument. With all the kit components of plastic consumables that are DNase/RNase-Free pretreated, and with individual processing track for each loaded sample, this system eliminates all possible cross contamination between samples. Built-in protocol with flexibility in sample source volumes, both DNA and RNA virus can be extracted using the same kit in a fast and economical way.

Applications

Using magnetic-particle technology to purify viral nucleic acid from serum, plasma, saliva and cell-free body fluids. The purified viral nucleic acid is suitable for highly sensitive and quantitative PCR.

Preparation Before Using

1. Add 1.0 ml RNase Free Water to the Carrier RNA tube and mix by vortexing. Store prepared Carrier RNA (1mg/ml) at -20℃.
   (Do not freeze–thaw the carrier RNA more than 3 times.)
2. Add 1.1 ml PK Storage Buffer to the Proteinase K tube and mix by vortexing. Store prepared Proteinase K (10mg/ml) at 2-8 ℃

Protocol

1. Pipet 10 µl Carrier RNA (1mg/ml) and 20 µl proteinase K (10mg/ml) into the MagCore® Sample Tubes.
2. Add 200 µl or 400 µl of serum, plasma, saliva and cell-free body fluids into the prepared Sample Tube.
3. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
4. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
5. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
6. Run Code 202 program at MagCore®.

Urine Protocol

Sample Preparation

1. Harvest cells from up to 3.5 ml urine by centrifugation for 10 minutes at 3000 rpm and concentrate the sample to 400 µl
2. Add 5~10 µl ProteinaseK (10mg/ml) to the sample. Vortex for 5 seconds to mix sample.
3. Incubate at 56℃ for 10 minutes until the sample lysate is clear. During incubation, invert the tube every 3 minutes.
4. Pipet 10 µl Carrier RNA (1mg/ml) into the MagCore® Sample Tubes.
7. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
8. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
9. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
10. Run Code 202 program at MagCore®.

Swab Protocol

***Not Provided: GT Buffer and Filter Column Set.**

1. Separate the swab cotton from the stick. Place the swab into a 2ml microcentrifuge tube, add 500ul or more GT buffer (not provided, Cat. No. S44050030, 30ml) and 20ul Proteinase K (10mg/ml).
2. Incubate the sample lysate at 55℃ for 30min.
   For Buccal Swab sample, donor should not ingest anything for at least 30min prior to sample collection.
3. If there are any insoluble residues in the tube, transfer the supernatant to Filter Column (not provided, Cat. No. S42030001, 96 pcs; Cat. No. S42030002, 36 pcs) and centrifuge at full speed for 5 mins to get clear tissue solution in the Collection Tube.
4. Pipette 400ul of clear tissue solution and 10 µl Carrier RNA (1mg/ml) to the MagCore® Sample Tube.
5. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
6. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
7. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
8. Run Code **202** program at MagCore®.

Respiratory Sample Protocol (Sputum/Saliva)

Reagents to Be Prepared by User

Either Sputasol solution (not provided) or NAC buffer (not provided)

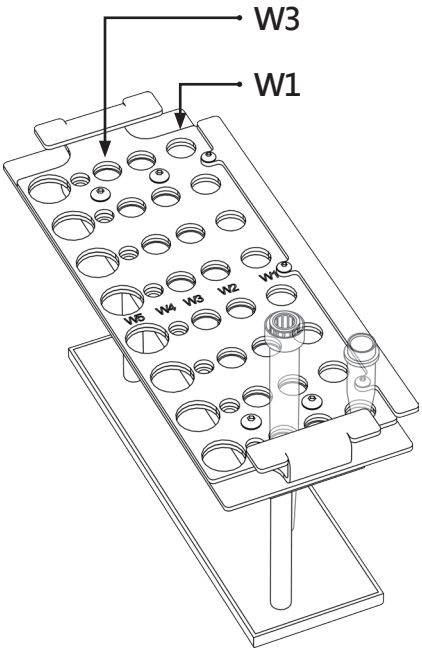
1. *Liquefy the sample following either step a. or b.*
   a. *Add 1 volume of Sputasol solution to 1 volume of sample and shake. Incubate in water bath at 37°C and shake periodically until the sample is completely liquefied.*

   b. *Mix 1 volume of sample with 1 volume of NAC buffer (10 g N acetylcysteine per liter of 0.9% NaCl solution). If the sample is very viscous solid , disrupt it mechanically by pipetting up and down. Incubate at room temperature for 30 min and shake periodically until completely liquefied.*

   Note: if the sample is very viscous/solid, a longer incubation time with periodical shaking might be required.

2. *Centrifuge the liquefied sample until pellet is obtained, then transfer the clear supernatant to a clean tube.*
3. *Apply 200µl or 400µl of clear lysate and continue with MagCore Viral Kit general protocol step 1 (Carrier RNA and PK step).*

EDA T-Rack Tube and Tip Position Configuration



W5	Empty
W4	Empty
W3	Tip Holder set
W2	Empty
W1	Sample Tube

MagCore® Viral Nucleic Acid Extraction Kit (High Sensitivity)

For extraction of viral DNA/RNA from serum, plasma, saliva and cell-free body fluids
Applicable models: HF16, Compact, HF48, Super, HF16 Plus, Plus II, EDA

Cartridge Code 203 (Use code 219 for fast protocol)

Cat. No. MVN400-05// MVN400-06

Kit Contents

Check that the following parts are included in addition to the main unit:

Cat. No. MVN400-05 Contents:

Pre-filled Cartridge Reagent	*36 pcs.*
Pipet Tip plus Holder Set	*36 sets.*
Sample Tube	*36 pcs (two packages).*
Elution Tube	*36 pcs.*
Carrier RNA(1mg)	*1 pcs.*
RNase Free Water	*1 pcs.*
Proteinase K(11mg)	*1 pcs.*
PK Storage Buffer	*1 pcs.*

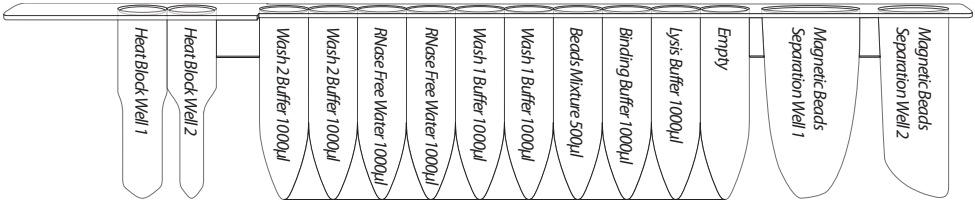
Cat. No. MVN400-06 Contents:

Pre-filled Cartridge Reagent	*96 pcs.*
Pipet Tip plus Holder Set	*96 sets.*
Sample Tube	*96 pcs (two packages).*
Elution Tube	*96 pcs.*
Carrier RNA(1mg)	*1 pcs.*
RNase Free Water	*1 pcs.*
Proteinase K(11mg)	*2 pcs.*
PK Storage Buffer	*2 pcs.*

Storage and Stability :

1. This kit should be stored at room temperature.
2. Carrier RNA should be stored at -20℃ when mixing with RNase Free Water / Proteinase K should be stored at 2-8 ℃ upon arrival.
3. Shelf Life:18 Months.
Note For long-term storage of DNA/RNA, eluate should be store at -20℃/-80℃ is recommended.*

Cartridge Contents :



Description

MagCore® Viral Nucleic Acid Extraction Kit is designed to extract viral DNA and RNA via MagCore® auto-extraction instrument. With all the kit components of plastic consumables that are DNase/RNase-Free pretreated, and with individual processing track for each loaded sample, this system eliminates all possible cross contamination between samples. Built-in protocol with flexibility in sample source volumes, both DNA and RNA virus can be extracted using the same kit in a fast and economical way.

Applications

Using magnetic-particle technology to purify viral nucleic acid from serum, plasma, saliva and cell-free body fluids. The purified viral nucleic acid is suitable for highly sensitive and quantitative PCR.

Preparation Before Using

1. Add 1.0 ml RNase Free Water to the Carrier RNA tube and mix by vortexing. Store prepared Carrier RNA (1mg/ml) at -20℃.
   (Do not freeze–thaw the carrier RNA more than 3 times.)
2. Add 1.1 ml PK Storage Buffer to the Proteinase K tube and mix by vortexing. Store prepared Proteinase K (10mg/ml) at 2-8 ℃

Protocol

1. Pipet 10 µl Carrier RNA (1mg/ml) and 20 µl proteinase K (10mg/ml) into the MagCore® Sample Tubes.
2. Add 200 µl or 400 µl of serum, plasma, saliva and cell-free body fluids into the prepared Sample Tube.
3. **Internal Control (IC) Selection**
   Pipet the Internal Control (5, 10 or 20 µl, not provided) into a new Sample Tube.
   Place this sample tube into the W2 of the T-Rack.
   a. HF16, Compact, Plus II, EDA : Select add IC (3) Yes or (4) No.
   b. Super, HF16 Plus: Select Code **203A** for adding IC or Code **203B** for without IC.
4. Put the prepared Sample Tube into the W1 of the T-Rack.
5. Elution Tube & Tip Position
   a. HF16, Compact: Put Elution Tube into the W4 of T-Rack and Pipette Tip into the W3 of T-Rack.
   b. Super, HF16 Plus, Plus II: Put Elution Tube into the W5 of T-Rack and Pipette Tip into the W3 of T-Rack.
   c. EDA: Put Elution Tube into the EL/ER Slot and Pipette Tip into the W3 of T-Rack.
6. Run Code 203 (HF16, Compact, Plus II, EDA) or 203A/203B (Super, HF16 Plus) program at MagCore®.
7. For a faster running time option, run Code 219(Super, HF16 Plus, Plus II, EDA) program at MagCore ®.
   (Fast protocol of Code 219 leads to an increase in the CT value around 1 to 2. Select the appropriate code based on your needs.)

Urine Protocol

Sample Preparation

1. Harvest cells from up to 3.5 ml urine by centrifugation for 10 minutes at 3000 rpm and concentrate the sample to 400 µl
2. Add 5~10 µl Proteinase K (10mg/ml) to the sample. Vortex for 5 seconds to mix sample.
3. Incubate at 56℃ for 10 minutes until the sample lysate is clear. During incubation, invert the tube every 3 minutes.
4. Pipet 10 µl Carrier RNA (1mg/ml) into the MagCore® Sample Tubes.
5. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
6. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
7. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
8. Run Code **203** (HF16, Compact) or **203A/203B** (Super, HF16 Plus) program at MagCore®.
9. For a faster running time option, run Code 219(Super, HF16 Plus, Plus II, EDA) program at MagCore ®.
   (Fast protocol of Code 219 leads to an increase in the CT value around 1 to 2. Select the appropriate code based on your needs)

Swab Protocol

***Not Provided: GT Buffer and Filter Column Set.**

1. Separate the swab cotton from the stick. Place the swab into a 2ml microcentrifuge tube, add 500ul or more GT buffer (not provided, Cat. No. S44050030, 30ml) and 20ul Proteinase K (10mg/ml).
2. Incubate the sample lysate at 55℃ for 30min.
   For Buccal Swab sample, donor should not ingest anything for at least 30min prior to sample collection.
3. If there are any insoluble residues in the tube, transfer the supernatant to Filter Column (not provided, Cat. No. S42030001, 96 pcs; Cat No. S42030002, 36 pcs) and centrifuge at full speed for 5 mins to get clear tissue solution in the Collection Tube.

4. *Pipette 400ul of clear tissue solution and 10 µl Carrier RNA (1mg/ml) to the MagCore® Sample Tube.*
5. *Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)*
6. *Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.*
7. *Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).*
8. *Run Code **203** (HF16, Compact, Plus II) or **203A/203B** (Super, HF16 Plus) program at MagCore®*
9. *For a faster running time option, run Code 219 (Super, HF16 Plus, Plus II, EDA) program at MagCore®. (Fast protocol of Code 219 leads to an increase in the CT value around 1 to 2. Select the appropriate code based on your needs)*

Respiratory Sample Protocol (Sputum)

Reagents to Be Prepared by User

Either Sputasol solution (not provided) or NAC buffer (not provided)

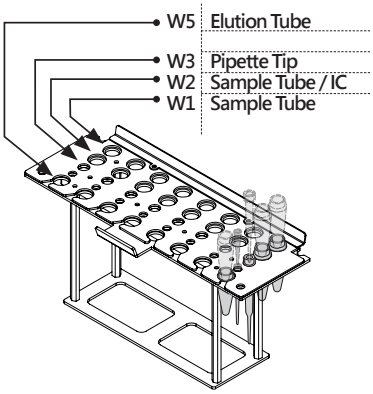
1. *Liquefy the sample following either step a. or b.*
   a. *Add 1 volume of Sputasol solution to 1 volume of sample and shake. Incubate in water bath at 37°C and shake periodically until the sample is completely liquefied.*

   b. *Mix 1 volume of sample with 1 volume of NAC buffer (10 g N acetylcysteine per liter of 0.9% NaCl solution). If the sample is very viscous solid , disrupt it mechanically by pipetting up and down. Incubate at room temperature for 30 min and shake periodically until completely liquefied.*

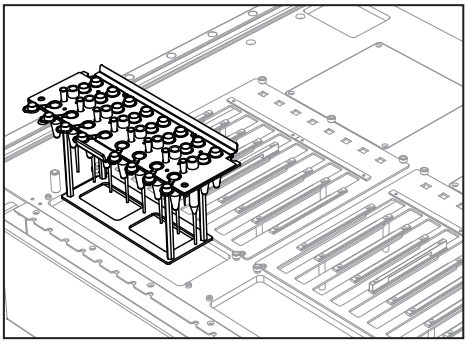
   Note: if the sample is very viscous/solid, a longer incubation time with periodical shaking might be required.

2. *Centrifuge the liquefied sample until pellet is obtained, then transfer the clear supernatant to a clean tube.*
3. *Apply 200µl or 400µl of clear lysate and continue with MagCore Viral Kit general protocol step 1 (Carrier RNA and PK step).*

– Install Tube, Tip



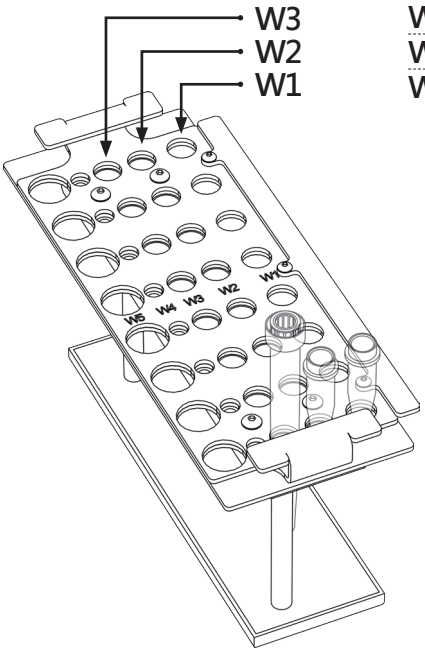
1. Put the tip into the corresponding well according to the left figure.
2. Put the T-Rack on the machine.



Warning :

Please do not use the Tips and Tubes which are not provided by the original manufacturer. The test result may be not correct and the machine may be damaged due to different Tips and Tubes.

EDA T-Rack Tube and Tip Position Configuration



W5	Empty
W4	Empty
W3	Tip Holder set
W2	Sample Tube (for Internal Control)
W1	Sample Tube

MagCore® Viral Nucleic Acid Large Volume Extraction Kit (1.2 ml)

For extraction of viral DNA/RNA from large volume (1.2 ml) serum, plasma, saliva and cell-free body fluids.
Applicable models: HF16, Compact, HF48, Super, HF16 Plus, Plus II, EDA

Cartridge Code 211

Cat. No. MVN-1200

Kit Contents

Check that the following parts are included in addition to the main unit:

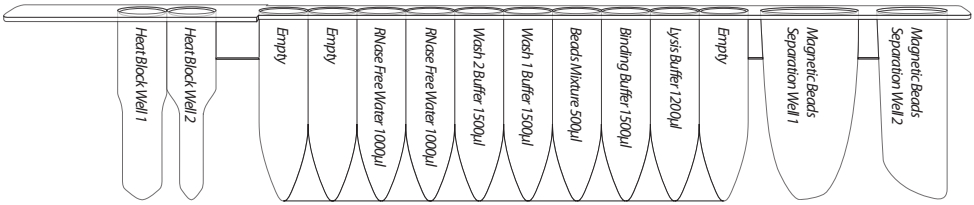
Cat. No. MVN-1200 Contents:

Pre-filled Cartridge Reagent	*96 pcs.*
Pipet Tip plus Holder Set	*96 sets.*
Sample Tube	*96 pcs.*
Elution Tube	*96 pcs.*
Carrier RNA(1mg)	*1 pcs.*
RNase Free Water	*1 pcs.*
Proteinase K(11mg)	*2 pcs.*
PK Storage Buffer	*2 pcs.*

Storage and Stability :

1. This kit should be stored at room temperature.
2. Carrier RNA should be stored at -20°C when mixing with RNase Free Water / Proteinase K should be stored at 2-8 °C upon arrival.
3. Shelf Life: 18 Months.
Note For long-term storage of DNA/RNA, eluate should be store at -20°C/-80°C is recommended.*

Cartridge Contents :



Description

MagCore® Viral Nucleic Acid Large Volume Extraction Kit (1.2ml) is designed for purification of DNA and RNA from 1.2ml serum, plasma, saliva, cell-free body fluids by MagCore® auto-extraction instrument. With all the kit components of plastic consumables that are DNase/ RNase-Free pretreated, and with individual processing track for each loaded sample, this system eliminates all possible cross contamination between samples. Built-in protocol with flexibility in sample source volumes, both DNA and RNA virus can be extracted using the same kit in a fast and economical way.

Applications

Using magnetic-particle technology to purify viral nucleic acid from serum, plasma, saliva and cell-free body fluids. The purified viral nucleic acid is suitable for highly sensitive and quantitative PCR.

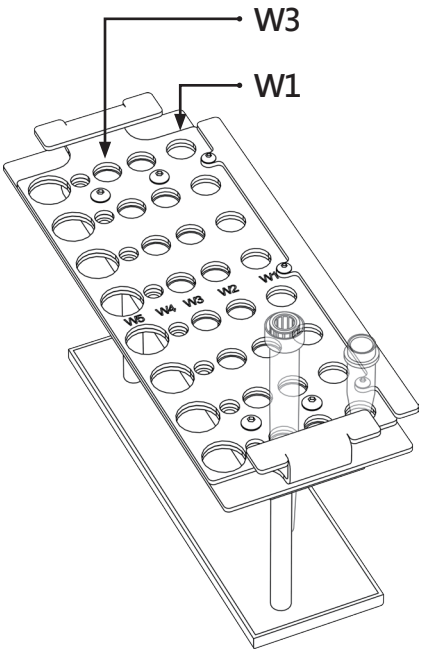
Preparation Before Using

1. Add 1.0 ml RNase Free Water to the Carrier RNA tube and mix by vortexing. Store prepared Carrier RNA (1mg/ml) at -20℃. (Do not freeze–thaw the carrier RNA more than 3 times.)
2. Add 1.1ml PK Storage Buffer to the Proteinase K tube and mix by vortexing. Store prepared Proteinase K (10mg/ml) at 2-8 ℃

Protocol

1. Pipet 10 µl Carrier RNA(1mg/ml) and 20 µl proteinase K(10mg/ml) into the MagCore® Sample Tubes(provided).
2. Add 1200 µl of serum, plasma, saliva and cell-free body fluids into the prepared Sample Tube.
3. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
4. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
5. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
6. Run Code 211 program at MagCore®.

EDA T-Rack Tube and Tip Position Configuration



W5	Empty
W4	Empty
W3	Tip Holder set
W2	Empty
W1	Sample Tube

MagCore® Viral Nucleic Acid Large Volume Extraction Kit (2.4 ml) High Sensitivity

For extraction of viral DNA/RNA from large volume (2.4 ml) serum, plasma, saliva and cell-free body fluids.
Applicable models: Super, HF16 Plus, Plus II, EDA

Cartridge Code 220

Cat. No. MVN-2401

Kit Contents

Check that the following parts are included in addition to the main unit:

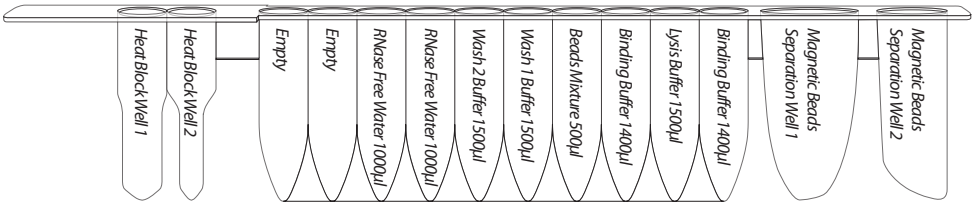
Cat. No. MVN-1200 Contents:

Pre-filled Cartridge Reagent	*96 pcs.*
Pipet Tip plus Holder Set	*96 sets.*
5ml Sample Tube	*96 pcs.*
Elution Tube	*96 pcs.*
Carrier RNA(1mg)	*2 pcs.*
RNase Free Water	*2 pcs.*
Proteinase K(11mg)	*8 pcs.*
PK Storage Buffer	*8 pcs.*

Storage and Stability :

1. *This kit should be stored at room temperature.*
2. *Carrier RNA should be stored at -20°C when mixing with RNase Free Water.*
3. *Proteinase K should be stored at 2-8 °C upon arrival.*
4. *Shelf Life: 18 Months.*

Cartridge Contents :



Description

Viral Nucleic Acid Large Volume Extraction Kit (2.4ml) High Sensitivity is designed for purification of DNA and RNA from 2.4ml serum, plasma, saliva, cell-free body fluids by MagCore® auto-extraction instrument. With all the kit components of plastic consumables that are DNase/ RNase-Free pretreated, and with individual processing track for each loaded sample, this system eliminates all possible cross contamination between samples. Built-in protocol with flexibility in sample source volumes, both DNA and RNA virus can be extracted using the same kit in a fast and economical way.

Applications

Using magnetic-particle technology to purify viral nucleic acid from serum, plasma, saliva, or cell-free body fluids. The purified viral nucleic acid is suitable for highly sensitive and quantitative PCR.

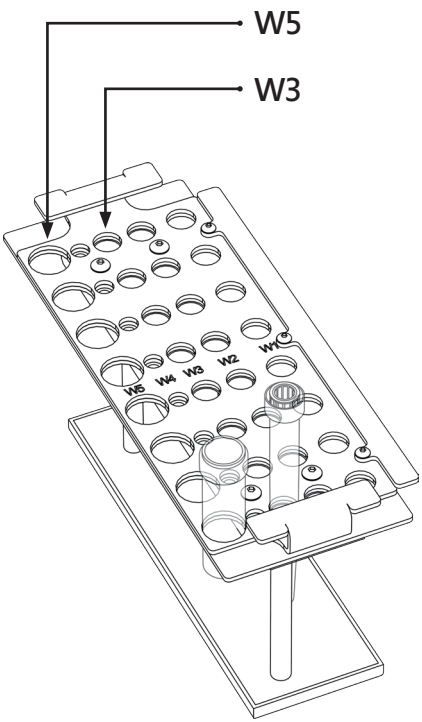
Preparation Before Using

1. Add 1.0 ml RNase Free Water to the Carrier RNA tube and mix by vortexing. Store prepared Carrier RNA (1mg/ml) at -20℃. (Do not freeze–thaw the carrier RNA more than 3 times.)
2. Add 1.1ml PK Storage Buffer to the Proteinase K tube and mix by vortexing. Store prepared Proteinase K (10mg/ml) at 2-8 ℃

Protocol

1. Pipet 20 µl Carrier RNA(1mg/ml) and 80 µl proteinase K(10mg/ml) into the 5ml Sample Tubes(provided).
2. Add 2400 µl of serum, plasma, saliva, or cell-free body fluids into the prepared 5ml Sample Tube.
3. Put the prepared 5ml Sample Tube into the correct well of T-Rack. (see page 5-18)
4. Load the Tip Plus Holder Set (EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
5. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
6. Run Code 220 program at MagCore®.

EDA T-Rack Tube and Tip Position Configuration



W5	5ml Sample Tube
W4	Empty
W3	Tip Holder set
W2	Empty
W1	Empty

MagCore® Genomic DNA Plant Kit

For extraction of genomic DNA from plant and fungal tissues.
Applicable models: HF16, Compact, HF48, Super, HF16 Plus, Plus II, EDA

Cartridge Code 301

Cat. No. MGP-01 // MGP-02

Kit Contents

Check that the following parts are included in addition to the main unit:

Cat. No. MGP-01 Contents:

Pre-filled Cartridge Reagent	36 pcs.
Pipet Tip plus Holder Set	36 sets.
Sample Tube	36 pcs.
Elution Tube	36 pcs.
Filter Column Set	36 pcs.
RNase A(10mg/ml, 275µl)	1 pcs.
GP1 Buffer(25ml)	1 pcs.
GP2 Buffer(6ml)	1 pcs.

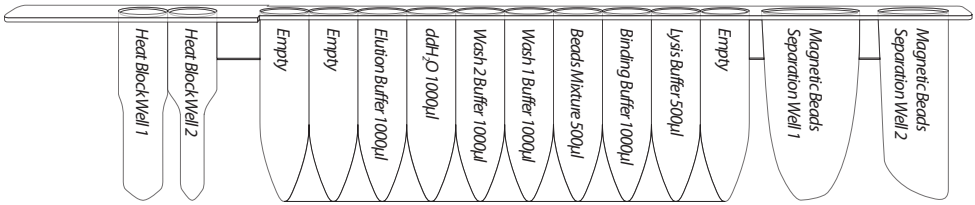
Cat. No. MGP-02 Contents:

Pre-filled Cartridge Reagent	96 pcs.
Pipet Tip plus Holder Set	96 sets.
Sample Tube	96 pcs.
Elution Tube	96 pcs.
Filter Column Set	96 pcs.
RNase A(10mg/ml, 550µl)	1 pcs.
GP1 Buffer(50ml)	1 pcs.
GP2 Buffer(15ml)	1 pcs.

Storage and Stability :

1. This kit should be stored at room temperature.
2. For long term storage, RNase A should be stored at 2-8 ℃.
3. Shelf Life: 18 Months.
Note For long-term storage of DNA/RNA, eluate should be store at -20℃/-80℃ is recommended.*

Cartridge Contents :



Description

MagCore® Genomic DNA Plant Kit is designed for purification of DNA from plant tissues and cells by using MagCore® autoextraction instrument. The provided Filter Column Set can filtrate hard tissue sample and prevent tissue residues to obstruct pipette tip during the process of MagCore®. The kit contains all required reagents and labware for automated purification using magnetic-particle technology. Easy select program code number 301 in MagCore® and combine using this kit that it can perform high quality genomic DNA.

Applications

Using magnetic-particle technology to purify genomic DNA up to 100mg of fresh tissue. The purified genomic DNA can be directly used for downstream application such as quantitative PCR, PCR, southern blotting, RADP / AFLP, etc.

Preparation Before Using

The kit procedures are optimized for a maximum of 100 mg of wet-weight or 20 mg of dried starting material.

Exceeding the recommended maximum amount of starting material will result in inefficient lysis, resulting in low yield and purity.

Tissue Dissociation Protocol

1. Cut 50 mg (up to 100 mg) of fresh or frozen plant tissue or 5 mg (up to 20 mg) of dried sample.
2. Grind the sample with mortar and pestle under liquid nitrogen to a fine powder. For some plant samples, liquid nitrogen may be unnecessary for homogenization.
3. Transfer it into a microcentrifuge tube (not provided).

Lysis Step:

1. Add 400µl GP1 Buffer and 5µl RNase A (10mg/ml) into the microcentrifuge tube and mix by vortexing. Do not mix GP1 Buffer with RNase A before use.
2. Incubate at 65℃ for 10 minutes. During incubation, invert the tube every 5 minutes.
3. Add 100µl GP2 Buffer and mix by vortexing.
4. Incubate on ice for 3 minutes. Place a Filter Column into a 2 ml Collection Tube and apply the entire lysate from previous step to the Filter Column.
5. Centrifuge for 3 minutes at full speed (13,000 rpm).
6. Discard the Filter Column and carefully transfer clarified lysate (about 400µl) in the collection Tube to the MagCore® Sample Tubes
7. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
8. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
9. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5--18).
10. Run Code 301 program at MagCore®.

Fungal Tissue Protocol

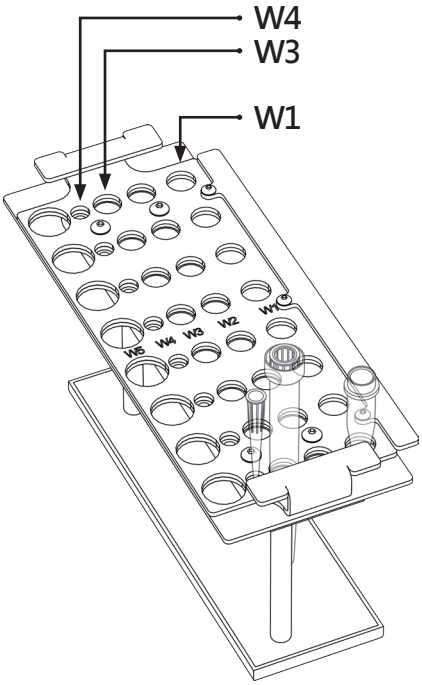
Sample Preparation

1. Collect the fungal tissue up to 20 mg.
2. Grind the sample with mortar and pestle under liquid nitrogen to a fine powder.
3. Transfer it into a microcentrifuge tube (not provided). Do not allow the sample to thaw.

Cell Lysis

1. Add 400µl GP1 Buffer and 5µl RNase A (10mg/ml) into the microcentrifuge tube and mix by vortexing. Do not mix GP1 Buffer with RNase A before use.
2. Incubate at 65℃ for 10 minutes. During incubation, invert the tube every 5 minutes.
3. Add 100µl GP2 Buffer and mix by vortexing.
4. Incubate on ice for 3 minutes. Place a Filter Column into a 2 ml Collection Tube and apply the entire lysate from previous step to the Filter Column.
5. Centrifuge for 3 minutes at full speed (13,000 rpm).
6. Discard the Filter Column and carefully transfer clarified lysate (about 400µl) in the collection Tube to the MagCore® Sample Tubes.
7. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
8. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
9. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5--18).
10. Run Code 301 program at MagCore®

EDA T-Rack Tube and Tip Position Configuration



W5	Empty
W4	SP Tip (for Optical Detection)
W3	Tip Holder set
W2	Empty
W1	Sample Tube

MagCore® Genomic DNA Tissue Kit

For extraction of genomic DNA from a variety to animal tissues, paraffin-embedded tissue, swab, blood stain, forensic specimens and cultured yeast.

Applicable models: HF16, Compact, HF48, Super, HF16 Plus, Plus II, EDA

Cartridge Code 401

Cat. No. MGT-01 // MGT-02

Kit Contents

Check that the following parts are included in addition to the main unit:

Cat. No. MGT-01 Contents:

Pre-filled Cartridge Reagent	36 pcs.
Pipet Tip plus Holder Set	36 sets.
Sample Tube	36 pcs.
Elution Tube	36 pcs.
GT Buffer(30ml)	1 pcs.
Filter Column Set	36 pcs.
Proteinase K(11mg)	1 pcs.
PK Storage Buffer	1 pcs.

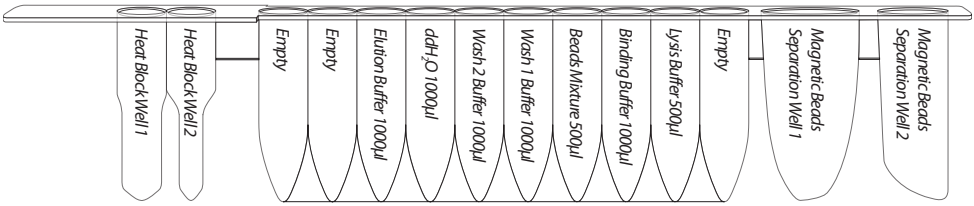
Cat. No. MGT-02 Contents:

Pre-filled Cartridge Reagent	96 pcs.
Pipet Tip plus Holder Set	96 sets.
Sample Tube	96 pcs.
Elution Tube	96 pcs.
GT Buffer(30ml)	2 pcs.
Filter Column Set	96 pcs.
Proteinase K(11mg)	2 pcs.
PK Storage Buffer	2 pcs.

Storage and Stability :

1. This kit should be stored at room temperature.
2. Proteinase K should be stored at 2-8℃ upon arrival.
3. Shelf Life: 18 Months.
Note For long-term storage of DNA/RNA, eluate should be store at -20℃/-80℃ is recommended.*

Cartridge Contents :



Description

MagCore® Genomic DNA Tissue Kit is designed for purification of total DNA (including genomic, mitochondrial and viral DNA) from a variety of animal tissues or cells by using MagCore® auto-extraction instrument. The provided Filter Column can filtrate hard tissue sample or swab sample to prevent tissue residues to obstruct pipette tip during the process of MagCore® . The method uses pre-filled cartridge which contains proteinase K and a chaotropic salt to lyse cells and degrade protein. DNA will bind to cellulose coated Magnetic Beads . After washing off the contaminants, the purified DNA is eluted by low salt elution buffer. Purified DNA of approximately 20-30 kb in length is suitable for PCR or other enzymatic reactions.

Applications

Using magnetic-particle technology to purify genomic DNA from animal tissues, paraffin embedded tissue, swab and blood stain. The purified genomic DNA can be directly used for downstream application such as quantitative PCR, restriction enzyme digestion, southern blotting, etc.

Preparation Before Using

1. Add 1.1ml PK Storage Buffer to the Proteinase K tube and mix by vortexing. Store prepared Proteinase K (10mg/ml) at 2-8℃

For Paraffin-Embedded Tissue

Sample Preparation:

Additional Requirements: Xylene(or Substitutes), Ethanol (96-100%), Microcentrifuge Tube.

Suggested Xylene Substitute: A5597(Sigma), Neo-Clear(Merck), CitriSolv(Fisher).

1. Slice small section (5-10μm) of paraffin-embedded tissue and transfer to a microcentrifuge tube.
   Discard the first 2-3 sections, if the surface of paraffin sample has been exposed to air.
2. Add 1ml xylene(or substitute) to the tube and vortex vigorously for 10sec. Then incubate at 60℃ for 10min.
3. Centrifuge at full speed for 3min at room temperature.
4. Remove the supernatant carefully by pipetting, then add 1ml ethanol (96-100%) to the pellet and mix by vortexing for 10sec.
5. Centrifuge at full speed for 5min at room temperature.
6. Remove the supernatant carefully by pipetting, then add again of 1ml ethanol (96-100%) to the pellet and mix by vortexing for 10sec to wash again.
7. Centrifuge at full speed for 5min.
8. Remove residual ethanol with a fine pipette tip, then open the tube and incubate at 55℃ for 5min until all residual ethanol has been evaporated.
9. Add 400μl GT Buffer and 20μl Proteinase K(10mg/ml) to the tube and mix by vortexing.
10. Incubate at 55℃ for 60min until the sample has been completely lysed.
11. Incubate at 90℃ for 60min.
12. If there are any insoluble residues in the tube, transfer the supernatant to Filter Column and centrifuge at full speed for 5min to get clear tissue solution in the Collection Tube.
13. Pipette 400μl of clear tissue solution to the MagCore® Sample Tube.
14. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
15. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
16. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
17. Run **Code 401 program** at MagCore®.

For Swab Sample

Additional Requirements: PBS and Microcentrifuge Tube.

1. Separate the swab cotton form the stick. Place the swab into a 2ml microcentrifuge tube, add 500μl or more of GT Buffer and 20μl Proteinase K(10mg/ml).
2. Incubate the sample lyaste at 55℃ for 30min.
   For Buccal Swab sample, donor should not ingest anything for at least 30min prior to sample collection.
3. If there are any insoluble residues in the tube, transfer the supernatant to Filter Column and centrifuge at full speed for 5min to get clear tissue solution in the Collection Tube.
4. Pipette 400μl of clear tissue solution to the MagCore® Sample Tube.
5. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
6. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
7. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
8. Run **Code 401 program** at MagCore®.

For Solid Animal Tissue

Additional Requirements: Microcentrifuge Tube.

1. Cut the solid tissue to small pieces (up to 30 mg) and put into a microcentrifuge tube.
2. Add 400µl GT Buffer and 20µl Proteinase K(10mg/ml) to the tube and mix by vortexing.
3. Incubate at 55℃ for 90min until the sample has been completely lysed.
4. If there are any insoluble residues in the tube, transfer the supernatant to Filter Column and centrifuge at full speed for 5min to get clear tissue solution in the Collection Tube.
5. Pipette 400µl of clear tissue solution to the MagCore® Sample Tube.
6. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
7. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
8. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
9. Run **Code 401 program** at MagCore®.

For Stool Sample

Additional Requirements: Microcentrifuge Tube.

1. Weight 180-200mg stool in a 2ml microcentrifuge tube and place on ice. If the sample is liquid, pipet 200µl into microcentrifuge tube. Cut the end of pipet tip to make pipetting easier. If the sample is frozen, use a scalpel or spatula to scrape bits of stool into microcentrifuge tube on ice.

   Recommend Step: Add 1ml TE buffer (10 mM Tris -HCl; 1 mM EDTA, pH 8). Resuspend the sample by vigorous vortexing for 30 secs. Centrifuge the sample mixture for 15 min at 4,000 x g and discard supernatant.
2. Add 1.5ml GT Buffer to sample. Vortex continuously for 1 min or until the stool sample is thoroughly homogenized. This is very important to vortex sample thoroughly to ensure maximum DNA concentration in the final elutes.
3. Incubate the suspension for 5 min at 70℃. This step can increase DNA recovery 3-5 fold, if the sample target is Gram-positive bacteria, please increase to 95℃ for cells lysis.
4. Vortex for 15 seconds and centrifuge sample at full speed (13,000rpm) for 1 min to pellet stool particles.
5. Pipet 400µl of the supernatant into a new 1.5ml microcentrifuge tube.
6. Add 20µl Proteinase K (10mg/ml) to the sample mixture and vortex to mix. Incubate at 60℃ for 2~3 hours to lyse the sample.
7. If there are any insoluble residues in the tube, transfer the supernatant to Filter Column and centrifuge at full speed for 5min to get clear tissue solution in the Collection Tube.
8. Pipette 400µl of clear tissue solution to the MagCore® Sample Tube.
9. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
10. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
11. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
12. Run **Code 401 program** at MagCore®.

For Feed-Soil Sample

1. Apply 30~40mg feed or soil samples into a 1.5 ml microcentrifuge tube.
2. Add 20µl (10mg/ml) Proteinase K and followed by adding 500µl of GT Buffer. Vortex gently until the powder suspend in GT buffer.
3. Incubate the mixture at 56℃ for 15mins. Invert the tube every 2~3mins during incubation.
   Typically 15mins incubation can lysis more than 90% cells. Extend incubation time to 20mins can increase 10% of yield.
4. Centrifuge the mixture for 3 min at full speed.
5. If there are any insoluble residues in the tube, transfer the supernatant to Filter Column and centrifuge at full speed for 5min to get clear tissue solution in the Collection Tube.
6. Pipette 400µl of clear tissue solution to the MagCore® Sample Tube.
7. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
8. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
9. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5--18).
10. Run **Code 401 program** at MagCore®.

For Dried Blood Spot

1. Cut 3mm diameter punches from a dried blood spot with a single-hole paper punch. Place up to 3 blood card into a 1.5ml microcentrifuge tube.
2. Add 400~500µl GT buffer into the microcentrifuge tube and continue to homogenize the sample tissue with grinding.
3. Add 20µl Proteinase K (10mg/ml) to the sample mixture and vortex to mix. Incubate at 60℃ for 1 hour to lyse the sample.
4. If there are any insoluble residues in the tube, transfer the supernatant to Filter Column and centrifuge at full speed for 5min to get clear tissue solution in the Collection Tube.
5. Pipette 400ul of clear tissue solution to the MagCore® Sample Tube.
6. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
7. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
8. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5--18).
9. Run **Code 401 program** at MagCore®.

Optional Step: RNA Degradation

If RNA-Free genomic DNA is required, perform these optional steps before adding Proteinase K.

1. Add 4µl RNase A (not provided, 50mg/ml) into the sample lysate.
2. Incubate the sample at room temperature for 20min.

Cigarette Butts Protocol

Sample Preparation

1. Cut 1 cm^2 piece of outer paper from the end of the cigarette or filter. Cut this piece into 6 smaller pieces. Transfer the pieces to a 1.5 ml microcentrifuge tube.

Cell Lysis

1. Add 500µl GT buffer and 20µl Proteinase K, close the lid, and mix for 10 sec. Incubate at 60°C for 1 hour to lyse the sample.
2. Briefly centrifuge the tube to remove drops from the inside of the lid.
3. Pipette 400µl of clear tissue solution to the MagCore® Sample Tube.
4. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
5. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
6. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
7. Run **Code 401 program** at MagCore®.

Hair Roots Protocol

Sample Preparation

1. Cut the hair roots into 0.5–1 cm pieces, and transfer them to the 1.5 ml microcentrifuge tube.

Cell Lysis

1. Add 500µl GT buffer and 20µl Proteinase K, close the lid, and mix for 10 sec. Incubate at 60°C for 1 hour to lyse the sample.
2. Briefly centrifuge the tube to remove drops from the inside of the lid.
3. Pipette 400µl of clear tissue solution to the MagCore® Sample Tube.
4. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
5. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
6. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
7. Run **Code 401 program** at MagCore®.

Chewing Gum Protocol

Sample Preparation

1. Cut up to 30 mg of chewing gum into small pieces and transfer them to a 1.5 ml microcentrifuge tube.

Cell Lysis

1. Add 500µl GT buffer and 20µl Proteinase K, close the lid, and mix for 10 sec. Incubate at 60°C for 1~3 hours to lyse the sample.
2. Briefly centrifuge the tube to remove drops from the inside of the lid.
3. Pipette 400µl of clear tissue solution to the MagCore® Sample Tube.
4. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
5. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
6. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
7. Run **Code 401 program** at MagCore®.

Betel Nut Residue Protocol

Sample Preparation

1. Cut up to 30 mg of betel nut residue into small pieces and transfer them to a 1.5 ml microcentrifuge tube.

Cell Lysis

1. Add 500µl GT buffer and 20µl Proteinase K, close the lid, and mix for 10 sec. Incubate at 60°C for 1~3 hours to lyse the sample.
2. Briefly centrifuge the tube to remove drops from the inside of the lid.
3. Pipette 400µl of clear tissue solution to the MagCore® Sample Tube.
4. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
5. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
6. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
7. Run **Code 401 program** at MagCore®.

Saliva Protocol

Sample Preparation

1. For saliva sample, donor should not ingest anything for at least 30min prior to sample collection.
2. Prepare PBS Buffer and 15 ml tube.

Cell Lysis

1. Apply the 1 ml saliva and add 4 ml PBS buffer (not provided).
2. Centrifuge at 1800 x g for 5 min, and then carefully discard the supernatant.
3. Resuspend the pellet in 400µl GT buffer.
4. Add 20µl Proteinase K, close the lid, and mix for 10 sec. Incubate at 70℃ for 10 minutes to lyse the sample.
5. If there are any insoluble residues in the tube, transfer the supernatant to Filter Column and centrifuge at full speed for 5min to get clear tissue solution in the Collection Tube.
6. Pipette 400µl of clear tissue solution to the MagCore® Sample Tube.
7. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
8. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
9. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
10. Run **Code 401 program** at MagCore®.

Cultured Yeast Protocol (Enzymatic method)

- **Additional requirements:** Sorbitol Buffer (Not Provided), Lyticase (Not Provided) or Zymolase (Not Provided), Microcentrifuge tube (Not Provided).
- **Preparation of Sorbitol Buffer:**

  1.2 M sorbitol, 10mM CaCl2, 0.1M Tris-Cl pH 7.5. Sterilize by filtration and store at 2-8 ℃

Sample Preparation

1. Harvest 3ml yeast cells (up to $5x10^7$ cells) by centrifugation at 5000 x g for 10 minutes. Discard the supernatant and carefully remove any remaining media by aspiration.
2. Resuspend the cell pellet in 600µl sorbitol buffer (not provided).

Cell Lysis

1. Add 200U Lyticase or Zymolase (not provided). Incubate at 30℃ for 30 minutes. Centrifuge the mixture for 10 min at 2,000 x g to harvest Spheroplast.
2. Remove the supernatant and add 400µl of GT Buffer to the tube and vortex or pipette to resuspend the cell pellet.
3. Incubate at 55℃ for 90min until the sample has been completely lysed.
4. If there are any insoluble residues in the tube, transfer the supernatant to Filter Column and centrifuge at full speed for 5 min to get clear tissue solution in the collection tube.
5. Pipette 400µl of clear tissue solution to the MagCore® Sample Tube.
6. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
7. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
8. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
9. Run **Code 401 program** at MagCore®.

Cultured Yeast/Fungi Protocol (Bead beating method)

- **Additional requirements**

Bead-Beating tube [Cat. No. S43610096, 96psc / Cat. No. S43610036, 36psc]
BB-L buffer (Cat. No. S44340050, 50mL), BB-FX buffer(Cat. No. S44350015, 15mL), RNase A(50 mg/mL) [Cat. No. S43500400, 400 µL / Cat. No. S43500160, 160 µL]*, Microcentrifuge (15,000 × g) (Not Provided), Vortex Genie 2 (Not Provided), Vortex adapter (Not Provided)*

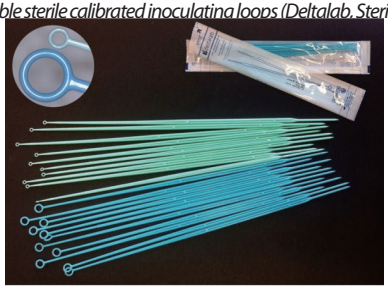
**** Please refer to the reagent information provided for 506.***

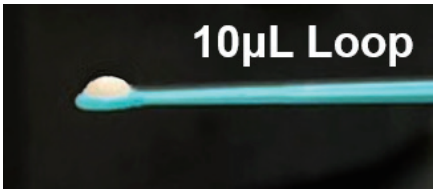
- **For vortex beads-beating homogenization**

Place the Beads-Beating Tube on a vortex adapter with horizontal orientation and balance loading during sample homogenize. Vortex Genie 2 with Vortex Adapter for 1.5– 2 ml tubes (cat. no. 13000-V1-24, product of QIAgen) is validated.

- **Plate culture-based materials for scraping and collecting microbial cells**

Disposable sterile calibrated inoculating loops (Deltalab, Sterile Calibrated Loops series, 10 µL) (Not Provided). (See scheme below.)





Sample Preparation Methods

Choose one of the following methods depending on whether your sample is broth- or plate-based. (Step 1-6)

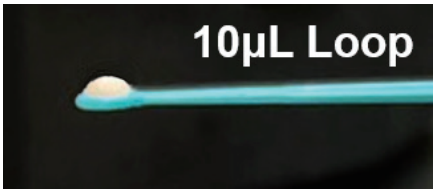
For Broth Culture

1. *Prepare Beads-Beating Tubes and briefly centrifuge to ensure no beads stick to the tube walls.*
   * *The number of tubes should correspond to the number of samples.*
2. *Premix fungal lysis buffer by combining BB-L and BB-FX at a 4:1 volume ratio (e.g., 10 mL BB-L : 2.5 mL BB-FX).*
3. *Collect microbial cells equivalent to 20 OD600 units by centrifugation at 5,000 × g for 5 min in a 15 mL centrifuge tube (not provided). Carefully remove and discard the supernatant without disturbing the cell pellet.*
4. *Resuspend the pellet in **650 µL fungal lysis buffer** by pipetting to ensure uniform suspension.*
5. *Transfer **650 µL** of the suspended cells into each Beads-Beating Tube.*
6. *Add 20 µL Proteinase K (10 mg/mL) to each tube and mix by gently inverting 10 times.*
   * *Each Beads-Beating Tube should contain **650 µL fungal lysis buffer** with resuspended microbial cells and 20 µL Proteinase K.*

For Plate Culture

1. *Prepare Beads-Beating Tubes and briefly centrifuge to ensure no beads stick to the tube walls.*
   * *The number of tubes should correspond to the number of samples.*
2. *Premix fungal lysis buffer by combining BB-L and BB-FX at a 4:1 volume ratio (e.g., 10 mL BB-L : 2.5 mL BB-FX).*
3. *Pre-add **150 µL fungal lysis buffer** to each Beads-Beating Tube.*
4. *Prepare 1.5 mL microcentrifuge tubes (not provided) and add **500 µL fungal** lysis buffer to each tube.*

5. *Using a 10 µL disposable inoculating loop, collect one loopful of cells from the colony (estimated OD600 ~19-25, as shown in the figure below), resuspend the cells in the microcentrifuge tube prepared in Step 4 by pipetting up and down until well dispersed, then transfer the suspension to the Beads-Beating Tube prepared in Step 3.*



* *Each Bead-Beating Tube should contain **650 µL of fungal lysis buffer** with resuspended microbial cells.*

* *If colonies are viscous, pre-suspend the cells in 500 µL 1× PBS in a microcentrifuge tube by pipetting up and down to break up clumps. Centrifuge at 5,000 × g for 5min, discard the supernatant, and resuspend the pellet in **650 µL fungal lysis buffer** prepared in Step 4 before transferring to the Beads-Beating Tube in Step 3.*

6. *Add 20 µL Proteinase K (10 mg/mL) to each tube and mix by gently inverting 10 times.*

* *Each Beads-Beating Tube should contain **650 µL fungal lysis buffer** with resuspended microbial cells and 20 µL Proteinase K.*

Sample Lysis (for both Broth and Plate Culture samples)

7. *Vortex Beads-Beating Tubes at maximum speed for 20-25 min (horizontally fixed).*

* *For Yeast and Candida, a bead-beating time of 20 minutes is recommended.*

* *Use QIAGEN Vortex Adapter (Model 13000-V1-24) with Vortex Genie 2.*

8. *Centrifuge at 15,000 × g for 10 min. Transfer up to **400 µL supernatant** to a Sample tube.*

* *Avoid debris; transfer the clear middle layer.*

* *Maximum volume per tube: **400 µL**.*

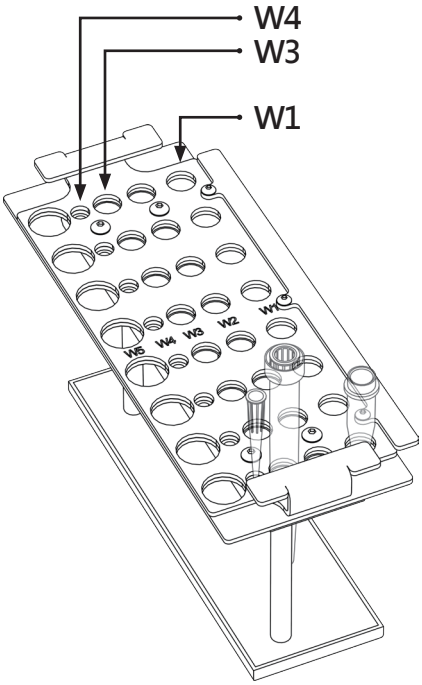
9. *Add 8 µL RNase A (50 mg/mL) to each Sample tube.*
10. *Pipette 400 µL of the lysed solution into the MagCore® Sample Tube.*
11. *Place the prepared Sample Tube into the appropriate well of the T-Rack (see page 5–18).*
12. *While waiting for the sample lysis time, set up the MagCore® instrument as follows:*

i. *Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.*

ii. *Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the corresponding T-Rack position (see page 5–18).*

13. *Run the **Code 401 program** on the MagCore® instrument (**recommended elution volume: 60 or 100 µL Water**).*

EDA T-Rack Tube and Tip Position Configuration



W5	Empty
W4	SP Tip (for Optical Detection)
W3	Tip Holder set
W2	Empty
W1	Sample Tube

MagCore® Genomic DNA FFPE One-Step Kit

For extraction of total DNA from formalin-fixed paraffin-embedded (FFPE) tissue by using MagCore® System.
Applicable models: HF16, Compact, HF48, Super, HF16 Plus, Plus II, EDA

Cartridge Code 405

Cat. No. MGF-01 // MGF-03

Kit Contents

Check that the following parts are included in addition to the main unit:

Cat. No. MGF-01 Contents:

Pre-filled Cartridge Reagent	*36 pcs.*
Pipet Tip plus Holder Set	*72sets.*
Elution Tube	*36 pcs.*
Sula Oil (25 ml)	*1 pcs.*
Proteinase K(11mg)	*1 pcs.*
PK Storage Buffer	*1 pcs.*
Thermostable Cap	*36 pcs.*

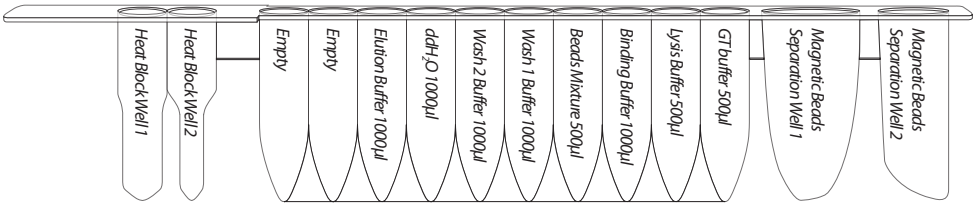
Cat. No. MGF-03 Contents:

Pre-filled Cartridge Reagent	*72 pcs.*
Pipet Tip plus Holder Set	*144 sets.*
Elution Tube	*72 pcs.*
Sula Oil (50ml)	*1 pcs.*
Proteinase K(11mg)	*2 pcs.*
PK Storage Buffer	*2 pcs.*
Thermostable Cap	*72 pcs.*

Storage and Stability:

1. This kit should be stored at room temperature.
2. Proteinase K should be stored at 2-8 ℃ upon arrival.
3. Shelf Life: 18 Months.
Note For long-term storage of DNA/RNA, eluate should be store at -20℃/-80℃ is recommended.*

Cartridge Contents :



Description

MagCore® Genomic DNA FFPE One-Step Kit is designed for purification of total DNA from FFPE tissues by using MagCore® instruments. It features the method, One-Step Heating, to melt paraffin and lyse tissue samples at the same time without harmful reagents involved such as xylene. Two protocols are designed and optimized for different sizes of tissues: 2 hrs for small samples/ 16 hrs for large samples (Please see "important notes"). DNA will be extracted fast and economically based on the cellulose coated magnetic bead technology.

Applications

Use magnetic-particle technology to purify genomic DNA from FFPE tissue. The purified genomic DNA can be directly used for downstream application such as PCR, real-time PCR, restriction enzyme digestion, southern blotting, etc.

Preparation Before Using

1. Add 1.1 ml PK Storage Buffer to the Proteinase K tube and mix by vortexing. Store prepared Proteinase K (10 mg/ml) at 2-8℃.

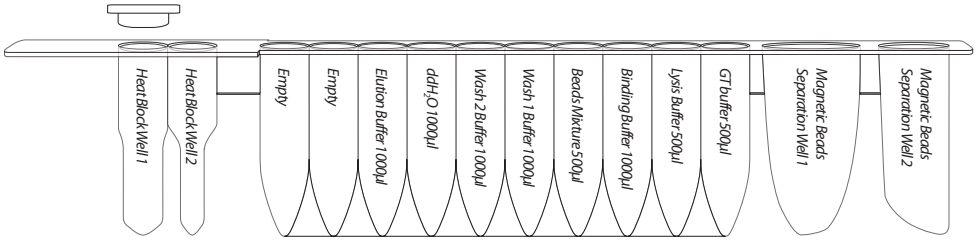
For Needle-Like FFPE Tissue Slices

1. 1. Add 500 µl Sula Oil, 20 µl PK and the FFPE tissue sample to the bottom of Heat Block Well 1 of the cartridge and then cover it up with the Thermostable Cap.

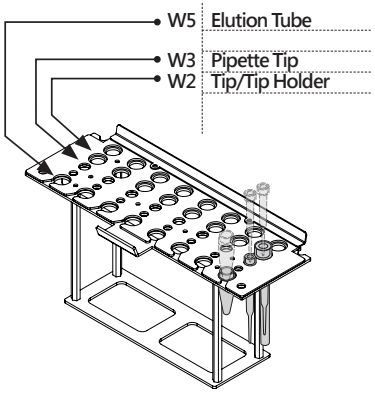
   Note: If the tissue is too large to lyse (the surface area over 300 mm^2) , cut it in 4 sections (Please see "important notes step 3") before adding in the heat block well 1 would be suggested. Make sure the tissue is at the bottom of the well to avoid clipping it by Thermostable cap.
2. Put Elution Tube and 2 set of Tip Plus Holder Set (HF16, Compact, EDA) / Pipette Tip (W3) + Pipette Tip/Tip Holder (W2) (Super, Plus, Plus II) into the correct wells of the T-Rack.(see below graphs-Well Position of T-Rack)
3. Run Code 405 program at MagCore®.

For Glass-Slide Samples

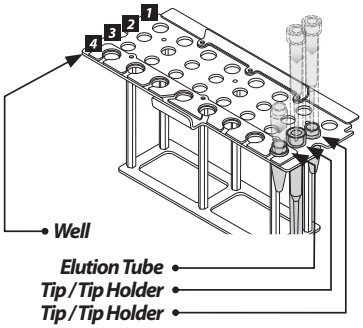
1. Drop several Sula Oil on the glass slide and scrape them from the slide carefully, then put in the bottom of Heat Block Well 1.
2. Add 500 µl Sula Oil and 20 µl PK into Heat Block well 1, rinse remaining sample on the wall and blade, then cover it up with the Thermostable Cap.
3. Put Elution Tube and 2 set of Tip Plus Holder Set (HF16, Compact, EDA) / Pipette Tip (W3) + Pipette Tip/Tip Holder (W2) (Super, Plus, Plus II) into the correct wells of the T-Rack.(see below graphs-Well Position of T-Rack)
4. Run Code 405 program at MagCore®.



MagCore® Super / MagCore® HF16 Plus

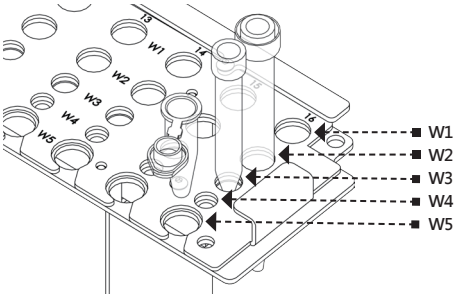


MagCore® HF16 / MagCore® Compact



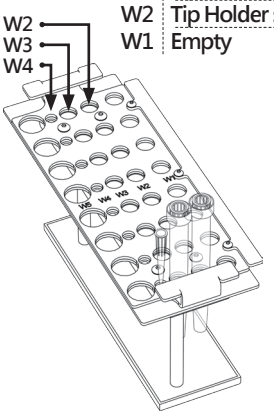
MagCore® Plus II

W5	Elution Tube
W4	Empty
W3	Pipette Tip
W2	Tip Holder set
W1	Empty



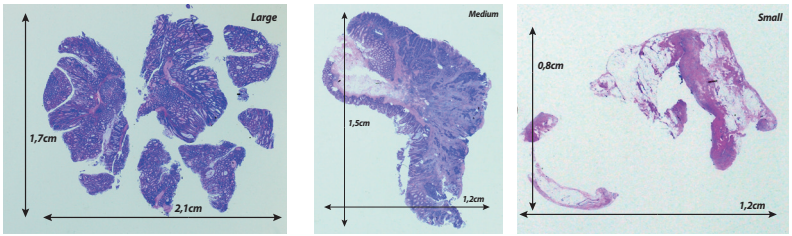
MagCore® EDA

W5	Empty
W4	SP Tip (for Optical Detection)
W3	Tip Holder set
W2	Tip Holder set
W1	Empty



Important Notes

1. *The surface area of the FFPE tissue sample could be measured as following examples:*



2. *Sample amount of preparation can be 1-5 scrolls, each with a thickness up to 5µm. One FFPE scroll could be enough to analyze if the surface area is over 200 mm^2.*

Surface Area (mm^2)	*Sample Scroll*
200 ↑	*1*
100-200	*1-2*
50-100	*2-3*
50 ↓	*3-5 (Don't over load 5 scrolls)*

**Overloading the sample or paraffin will clog the tip and decrease the yield.*

3. *If the tissue sample is over 300 mm^2, we recommend cutting it into 4 sections as following examples:*





4. *If you have no information about the sample, we recommend starting with no more than 1 scroll and cutting it into 4 sections per preparation.*
5. *Sula Oil is a deparaffin buffer. The capacity of the Sula Oil (500 µl) is about 20 mg paraffin per preparation.*
6. *In MagCore® 405 program, two different lyse time are provided: 2hr and 16hr.*

Remarks

1. *Both 2hr and 16hr program can extract DNA from FFPE sample.*
   Choose 2hr program for saving time; choose 16hr for higher yield.
2. *If you want to increase DNA yield, an overnight incubation (16hr program) can be performed, but it may result in greater DNA fragmentation.*

Troubleshooting

Symptoms	Comments and Suggestions
Low or NO DNA product	1. *The sample was lysed insufficiently. Make sure the proteinase K was stored at -20 ℃, and repeat the procedure using fresh PK.* 2. *The sample was too large to lyse completely. The large FFPE tissue was suggested cutting into 4 sections, and one scroll was enough for extraction. Clogging tip will affect the extraction process.*
Poor PCR results	1. *Poor quality FFPE samples. Fixation condition can affect PCR performance, such as long-time storage in fixative.* 2. *DNA fragments. DNA purified from FFPE samples may be fragmented due to formalin fixation, so we suggest keeping amplicons as short as possible for PCR.*
Clogging tip or liquid up to the tip filter	1. *The sample was too large to pipetting. Large tissue clogged the tip would result the liquid up to the tip filter or the extraction cannot finish. We suggest cutting the tissue before adding in the Heat Block well 1.* 2. *The sample was too much to pipetting. Do not extract too much scrolls at a time. For large tissue, one scroll is enough for extraction; for small tissue, we suggest not over 20mg of FFPE.*

MagCore® Forensic DNA Direct Kit

For extracting genomic DNA from forensic samples
Applicable Models: Super, HF16 Plus, Plus II, EDA

Cartridge Code 406

Cat. No. MFC-01 // MFC-03

Kit Contents

Check that the following parts are included in addition to the main unit:

Cat. No. MFC-01 Contents:

Pre-filled Cartridge Reagent	*24 pcs.*
Pipette Tip plus Holder Set	*25 pcs.*
FS Tip	*24 pcs.*
200 µl SP Tip	*24 pcs.*
Elution Tube	*24 pcs.*
Proteinase K(11mg)	*1 pcs.*
PK Storage Buffer	*1 pcs.*
Carrier RNA(1mg)	*1 pcs.*
RNase Free Water	*1 pcs.*

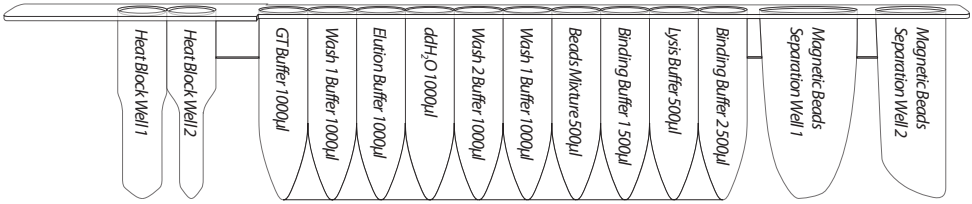
Cat. No. MFC-03 Contents:

Pre-filled Cartridge Reagent	*72 pcs.*
Pipette Tip plus Holder Set	*72 pcs.*
FS Tip	*75 pcs.*
200 µl SP Tip	*72 pcs.*
Elution Tube	*72 pcs.*
Proteinase K(11mg)	*2 pcs.*
PK Storage Buffer	*2 pcs.*
Carrier RNA(1mg)	*1 pcs.*
RNase Free Water	*1 pcs.*

Storage and Stability:

1. This kit should be stored at room temperature.
2. Carrier RNA should be stored at -20°C when mixing with RNase Free Water.
3. Proteinase K should be stored at 2-8 °C upon arrival.
4. Shelf Life: 18 Months.
Note For long-term storage of DNA/RNA, eluate should be store at -20°C/-80°C is recommended.*

Cartridge Contents :



Description

MagCore® Genomic DNA Forensic Kit is designed for purification of total DNA from forensic samples such as dried blood spot, swabs, cigarette butts, chewing gum, hair roots, seminal stain and nail clippings by using MagCore® auto-extraction instrument. It features an automated method in which solid samples can be fully purified by the machine without any pre-treatments.

Applications

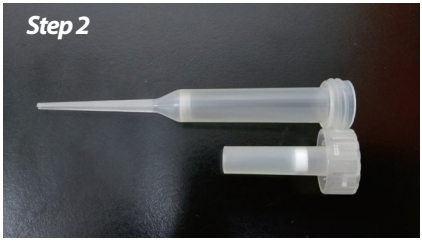
The usage of magnetic-particle technology is to purify genomic DNA from forensic samples. The purified genomic DNA can be directly used for downstream applications such as STR, PCR, real-time PCR, restriction enzyme digestion, southern blotting, etc.

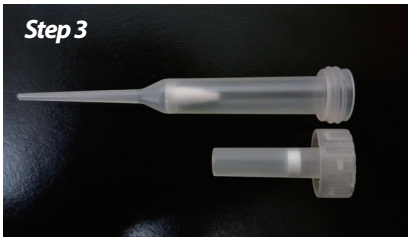
Preparation Before Using

1. Add 1.0 ml RNase Free Water to the Carrier RNA tube and mix by vortexing. Store prepared Carrier RNA (1mg/ml) at -20℃.
2. Add 1.1ml PK Storage Buffer to the Proteinase K tube and mix by vortexing. Store prepared Proteinase K (10mg/ml) at 2-8℃
3. Please confirm the software of the instrument is updated to the latest version by checking if the program code contains 406A, 406B and 406C from the cartridge number selection page, if not, please contact your local distributor.

FS Tip Operation Steps



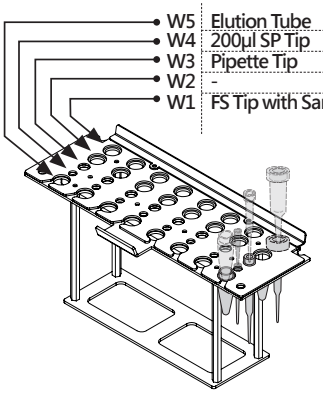






1. Take FS Tip out.
2. Unscrew the FS Tip lid.
3. Transfer the sample into the bottom of FS Tip.

⚠ **4. Screw the lid moderately, not over tight to prevent tip deformation and leakage of liquid.**



Notes

1. Sample must be placed at the bottom of the FS Tip.
2. It is not recommended to perform the optical test for elution volumes of 30µl.
3. For the optical test, please make sure that the Magcore® Cuvettes are placed in the Cartridge Rack.
4. 5µl of Carrier RNA (1mg/ml) and 20µl of proteinase K (10mg/ml) must be added to the bottom of Heat Block Well1.

Dried Blood Spot Protocol

Sample Preparation

1. *Punch 3mm-diameter holes from a dried blood spot with a single-hole paper punch. Place up to 3 punches into the bottom of FS Tip.*
2. *Add 5µl Carrier RNA (1mg/ml) and 20µl proteinase K (10mg/ml) to the bottom of Heat Block Well 1.*
3. *Put the 406 cartridges into Cartridge Rack.*

*Place the FS Tip (with Sample) into **well 1**, the Pipette Tip into **well 3**, the 200µl SP Tip into **well 4** and the Elution Tube into **well 5** of T-rack. Run Code **406C** program at Magcore® Super/Plus.*

Swab Protocol

Sample Preparation

1. *Separate the swab cotton from its stick with scissors. Place the cotton at the bottom of the FS Tip.*
2. *Add 5µl Carrier RNA (1mg/ml) and 20µl proteinase K (10mg/ml) to the bottom of **Heat Block Well 1**.*
3. *Put the 406 cartridges into Cartridge Rack.*
4. *Place the FS Tip (with Sample) into **well 1**, the Pipette Tip into **well 3**, the 200µl SP Tip into **well 4** and the Elution Tube into **well 5** of T-rack.*
5. *For blood swab, run Code **406C** program at Magcore® Super; for saliva swab, run Code **406A** program at Magcore® Super/Plus.*

Cigarette Butts Protocol

Sample Preparation

1. *Cut off 0.5 cm thick of the filter with tipping paper from the filtration zone. Transfer a piece into the bottom of FS Tip.*
2. *Add 5µl Carrier RNA (1mg/ml) and 20µl proteinase K (10mg/ml) to the bottom of **Heat Block Well 1**.*
3. *Put the 406 cartridges into Cartridge Rack.*
4. *Place the FS Tip (with Sample) into **well 1**, the Pipette Tip into **well 3**, the 200µl SP Tip into **well 4** and the Elution Tube into **well 5** of T-rack.*
5. *Run Code **406B** program at Magcore® Super/Plus.*

Chewing Gum Protocol

Sample Preparation

1. *Cut off a piece of chewing gum(≤30mg).Transfer it into the bottom of FS Tip.*
2. *Add 5µl Carrier RNA (1mg/ml) and 20µl proteinase K (10mg/ml) to the bottom of **Heat Block Well 1**.*
3. *Put the 406 cartridges into Cartridge Rack.*
4. *Place the FS Tip (with Sample) into **well 1**, the Pipette Tip into **well 3**, the 200µl SP Tip into **well 4** and the Elution Tube into **well 5** of T-rack.*
5. *Run Code **406B** program at Magcore® Super/Plus.*

Hair Roots Protocol

Sample Preparation

1. Cut off 0.5-1 cm piece starting from the hair bulb and transfer it into the bottom of FS Tip.
2. Add 5µl Carrier RNA (1mg/ml) and 20µl proteinase K (10mg/ml) to the bottom of **Heat Block Well 1**.
3. Add 10µl DTT (1M) (not provided) to the bottom of **Heat Block Well 1**.
4. Put the 406 cartridges into Cartridge Rack.
5. Place the FS Tip (with Sample) into **well 1**, the Pipette Tip into **well 3**, the 200µl SP Tip into **well 4** and the Elution Tube into **well 5** of T-rack.
6. Run Code **406B** program at Magcore® Super/Plus.

Seminal Stain Protocol

Sample Preparation

1. Place a piece of stained fabric or tissue paper (≤0.5cm2) into the bottom of the FS Tip.
2. Add 5µl Carrier RNA (1mg/ml) and 20µl proteinase K (10mg/ml) to the bottom of **Heat Block Well 1**.
3. Add 10µl DTT (1M) (not provided) into Heat Block Well 1.
4. Put the 406 cartridges into Cartridge Rack.
5. Place the FS Tip (with Sample) into **well 1**, the Pipette Tip into **well 3**, the 200µl SP Tip into **well 4** and the Elution Tube into **well 5** of T-rack.
6. Run Code **406C** program at Magcore® Super/Plus.

Nail Clippings Protocol

Sample Preparation

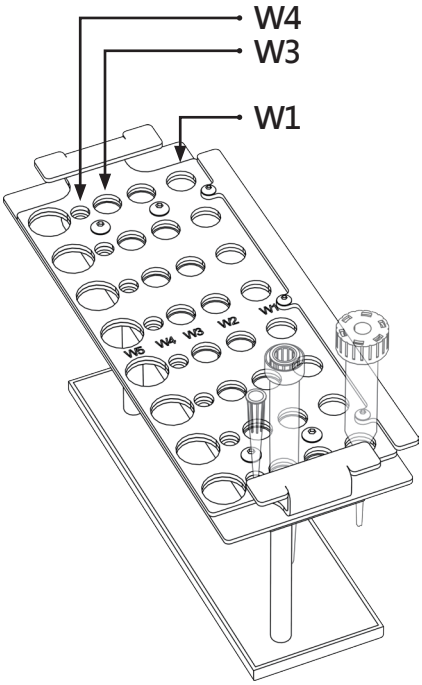
1. Transfer the nail clippings(≤10 mg) into the bottom of FS Tip.
2. Add 5µl Carrier RNA (1mg/ml) and 20µl proteinase K (10mg/ml) to the bottom of **Heat Block Well 1**.
3. Add 10µl DTT (1M) (not provided) to the bottom of **Heat Block Well 1**.
4. Put the 406 cartridges into Cartridge Rack.
5. Place the FS Tip (with Sample) into **well 1**, the Pipette Tip into **well 3**, the 200µl SP Tip into **well 4** and the Elution Tube into **well 5** of T-rack.
6. Run Code **406C** program at Magcore® Super/Plus.

Selection Guide

Sample / Program	Guthrie Card/ Paper		Swab		Fabric		Cigarette Butt	Hair Root	Seminal Stain	Chewing Gum	Nail Clipping
	Blood	Saliva	Blood	Saliva	Blood	Saliva					
406A		■		■		■					
406B	□		□		□		■	■	□	■	
406C	■		■		■				■		■

■ : Recommended Program □ : Compatible Program

EDA T-Rack Tube and Tip Position Configuration



W5	Empty
W4	SP Tip (for Optical Detection)
W3	Tip Holder set
W2	Empty
W1	FS Tip

MagCore® Genomic DNA Bacterial Kit

For extraction of genomic DNA from bacteria.
Applicable models: HF16, Compact, HF48, Super, HF16 Plus, Plus II, EDA

Cartridge Code 502

Cat. No. MBB-01 // MBB-02

Kit Contents

Check that the following parts are included in addition to the main unit:

Cat. No. MBB-01 Contents:

Pre-filled Cartridge Reagent	*36 pcs.*
Pipet Tip plus Holder Set	*36 sets.*
Sample Tube	*36 pcs.*
Elution Tube	*36 pcs.*
Lysozyme Reaction Buffer(15ml)	*1 pcs.*
Proteinase K(11mg)	*2 pcs.*
PK Storage Buffer	*2 pcs.*
RNase A(50mg/ml, 160μl)	*1 pcs.*

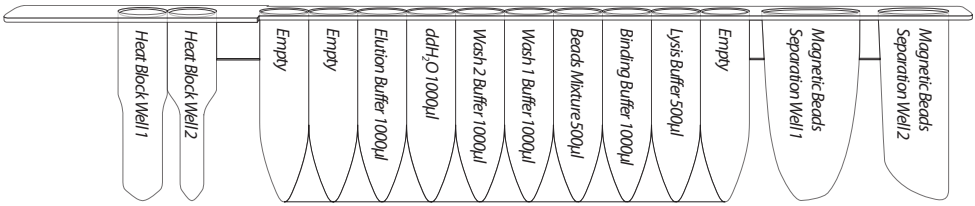
Cat. No. MBB-02 Contents:

Pre-filled Cartridge Reagent	*96 pcs.*
Pipet Tip plus Holder Set	*96 sets.*
Sample Tube	*96 pcs.*
Elution Tube	*96 pcs.*
Lysozyme Reaction Buffer(30ml)	*1 pcs.*
Proteinase K(11mg)	*4 pcs.*
PK Storage Buffer	*4 pcs.*
RNase A(50mg/ml, 400μl)	*1 pcs.*

Storage and Stability:

1. This kit should be stored at room temperature.
2. Proteinase K should be stored at 2-8 ℃ upon arrival.
3. For long term storage, RNase A should be stored at 2-8 ℃.
4. Shelf Life: 18 Months.
Note For long-term storage of DNA/RNA, eluate should be store at -20℃/-80℃ is recommended.*

Cartridge Contents :



Description

MagCore® Genomic DNA Bacterial kit is designed to extract genomic DNA from both Gram+ and Gram- bacteria via MagCore® auto-extraction instrument. The kit contains all required reagent and labware for automated purification using magnetic-particle technology. Easy select program code number 502 in MagCore® and combine using MagCore® Genomic DNA Bacterial Kit can extract high quality genomic DNA.

Applications

Using magnetic-particle technology to purify genomic DNA from both Gram+ and Gram- bacteria. The purified genomic DNA can be directly used for downstream application such as quantitative PCR, restriction enzyme digestion, southern blotting, etc.

Preparation Before Using

1. Add 1.1ml PK Storage Buffer to the Proteinase K tube and mix by vortexing. Store prepared Proteinase K (10mg/ml) at 2-8 ℃
2. Freshly prepared 20mg/ml Lysozyme solution before use. (for Gram + bacteria isolation, Lysozyme solution is necessary)
   Lysozyme (not provided) + Lysozyme Reaction Buffer = Lysozyme Solution

For Sputum Specimens

Specimens Decontamination

1. Fresh prepare 0.5% NALC in 2% NaOH, 1.5% Na-Citrate solution.
   (Ex: 0.25g NALC in 50mL NALC-NaOH solution)
2. Mix 10mL specimen with 10mL NALC-NaOH sol'n, RT℃ for 15 min.
3. Add 25mL PBS, mix and centrifuge 3000 x g for 15 min.
4. Discard supernatant, resuspend pellet with 200µl Lysozyme solution and transfer to the MagCore® Sample Tube.
5. Incubate for at least 30min at 37℃. During incubation, vortex the tube every 5min.

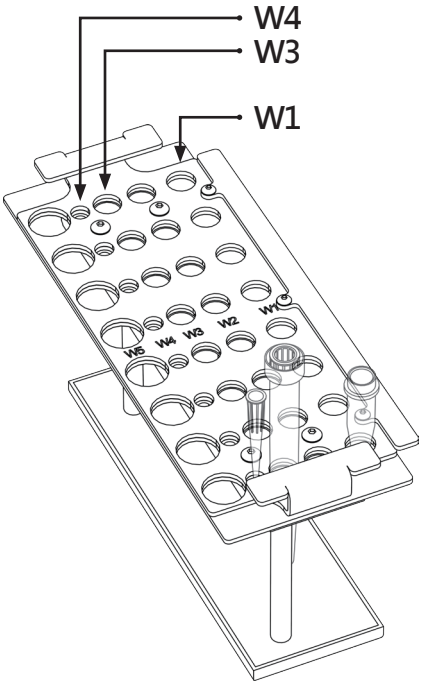
Cell Lysis

1. Add 4µl RNase A (50mg/ml) to sample mixture(including any precipitate) and vortex to mix sample.
2. Incubate at room temperature for 10min.
3. Resuspend sample mixture by pipetting.
4. Adding 40µl Proteinase K(10mg/ml) to sample mixture and vortex to mix sample.
5. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
6. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
7. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
8. Run Code 502 program at MagCore®.

General Protocol

1. Harvest bacteria (maximum 5x 10^8 cells) into the MagCore®Sample Tube by centrifuging at 5000 x g(8000rpm) for 3min. Discard supernatant.
2. Resuspend bacterial pellet in 200µl Lysozyme Solution by vortexing or pipetting. (if target is Gram- bacteria, please use Lysozyme Reaction Buffer)
3. Incubate for at least 30min at 37℃ and vortex the tube every 5min. (for Gram- bacteria isolation, you can skip this step)
4. Add 4µl RNase A (50mg/ml) to sample mixture(including any precipitate) and vortex to mix sample.
5. Incubate at room temperature for 10min.
6. Resuspend sample mixture by pipetting.
7. Adding 40µl Proteinase K(10mg/ml) to sample mixture and vortex to mix sample.
8. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
9. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
10. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
11. Run Code 502 program at MagCore®.

EDA T-Rack Tube and Tip Position Configuration



W5	Empty
W4	SP Tip (for Optical Detection)
W3	Tip Holder set
W2	Empty
W1	Sample Tube

MagCore® Gut Microbiome DNA Kit

For extraction of microbial and host genomic DNA from stool samples by using MagCore® System.
Applicable models: Plus II, EDA, Super, HF16 Plus

Cartridge Code 504

Cat No. MGM-01 // MGM-02

Kit Contents

Check that the following parts are included in addition to the main unit:

Cat. No. MGM-01 Contents:

Pre-filled Cartridge Reagent	24 pcs.
Pipet Tip plus Holder Set	24 pcs.
Sample Tube	24 pcs.
Elution Tube	24 pcs.
Beads-Beating Tube	24 pcs.
GM-L1 Buffer(40ml)	1 pcs.
GM-L2 Buffer(10ml)	1 pcs.
GM-IR Buffer(20ml)	1 pcs.
GM-P1 Buffer(10ml)	1 pcs.
GM-P2 Buffer(15ml)	1 pcs.
GM-LY Buffer(40ml)	1 pcs.

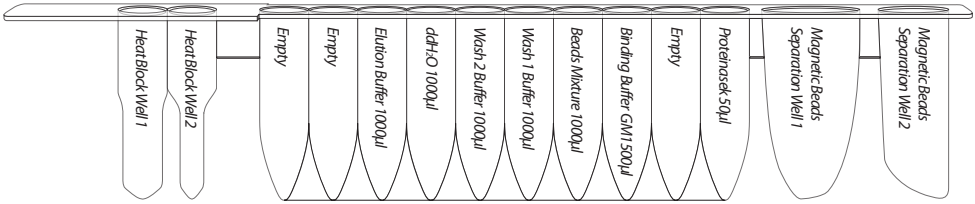
Cat. No. MGM-02 Contents:

Pre-filled Cartridge Reagent	72 pcs.
Pipet Tip plus Holder Set	72 pcs.
Sample Tube	72 pcs.
Elution Tube	72 pcs.
Beads-Beating Tube	72 pcs.
GM-L1 Buffer(40ml)	2 pcs.
GM-L2 Buffer(10ml)	1 pcs.
GM-IR Buffer(20ml)	2 pcs.
GM-P1 Buffer(10ml)	1 pcs.
GM-P2 Buffer(15ml)	2 pcs.
GM-LY Buffer(40ml)	2 pcs.

Storage and Stability:

1. GM-IR Buffer & GM-P1 Buffer should be stored at 2-8°C upon arrival.
2. Other reagents and kit components should be stored at room temperature (15-25°C).
3. Shelf Life: 12 Months.
Note For long-term storage of DNA/RNA, eluate should be store at -20°C/-80°C is recommended.*

Cartridge Contents :



Description

MagCore® gut microbiome DNA Kit is specially designed for isolating high-quality microbial and host genomic DNA from stool and gut samples. This kit can be used to successfully isolate DNA from tough-to-lyse Gram-positive and Gram-negative bacteria which inhabit fecal samples by efficiently lysed and homogenized with Beads-Beating Tube and lysis chemistry. Hands-on time can be completed in as little as 20 minutes. In addition, inhibitor substances (e.g. polysaccharides, protein, etc.) commonly found in stools were removed by one-step IR Buffer. The crude DNA is then precipitated on ice and resuspended to adjust the condition that is suitable for binding genomic DNA. The DNA is ready for downstream molecular-based applications including qPCR, 16S rRNA gene sequencing, etc.

Applications

Using magnetic-particle technology to purify genomic DNA from stool samples. The purified DNA can be directly used for downstream application such as qPCR, 16S rRNA gene sequencing, etc.

Preparation Before Using

1. Equipment: Microcentrifuge (16,000xg), Pipette (50-1000µl), Vortex Genie 2, Vortex adapter.
2. For vortex beads-beating homogenization: Place the Beads-Beating Tube on a vortex adapter with horizontal orientation and balance loading during sample homogenize. Vortex Genie 2 with Vortex Adapter for 1.5– 2 ml tubes (cat. no. 13000-V1-24, product of QIAgen) is validated.
3. Materials for handling stool samples: Cut 1000µl pipette tip or Microspatula (Corning™ #3013) to scrape the stool samples. (Refer Fig. a)
4. A box of crushed ice.



▲Fig. a

Standard Protocol (200±20mg stool samples)

1. Add 200±20mg stool samples to a Beads-Beating Tube then add 900µl GM-L1 Buffer and 100µl GM-L2 Buffer immediately, centrifuge briefly to ensure the samples immerse in the buffer.
2. Secure tubes horizontally on a Vortex Adapter. Vortex at maximum speed for 10 min.
3. Centrifuge 13000 x g for 1 min, transfer up to 800µl supernatant to a new 1.5ml microcentrifuge tube.
4. Add 460µl GM-IR Buffer(store at 2-8℃), vortex for 10s then spin down, incubate the tube on ice for 5 min.
5. Centrifuge 13000 x g for 1 min, transfer up to 800µl supernatant (avoiding the pellet) to a new 1.5ml microcentrifuge tube.
6. Add 75µl GM-P1 Buffer (store at 2-8℃) then add 250µl GM-P2 Buffer, inverting the tube 10 – 15 times then spin down, incubating the tube on ice for 10 min.

*Do not vortex. *Do not add GM-P1 Buffer and GM-P2 Buffer prior to the mixture from step5.

7. While waiting for the incubation time, you can set up the MagCore instrument. (Or after finish the sample pretreatment: step 8)
   i. Load the Tip Plus Holder Set (EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
   ii. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see below graphs- Well Position of T-Rack).
8. Centrifuge 13000 x g for 3 min, discard the supernatant (residual liquid could be less than 30µl), pipette 800µl GM-LY Buffer to resuspend the pellet.
   Avoid generating too much bubble while resuspending, then transfer up to 850µl to the Sample Tube.
9. Place the prepared Sample Tube into the W1 of T-Rack.
10. Run Code. 504. (Recommend to use 200µl elution volume for the best DNA yield.)
11. If the elute DNA product A260/230 ratio is lower than 1.8, please centrifuge at 16000 x g for 1min, then transfer the supernatant and store at -20℃.

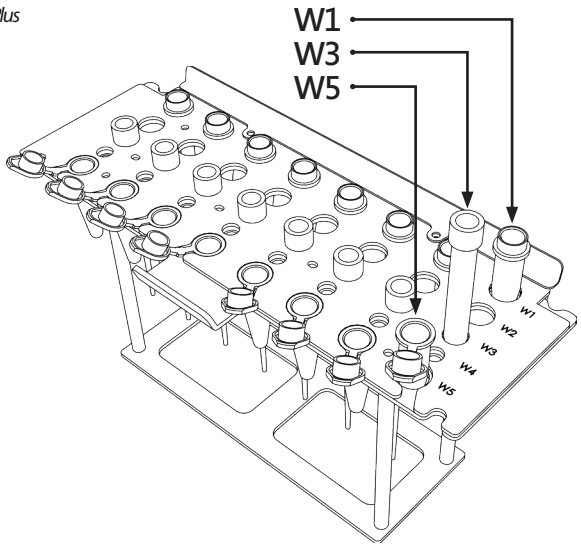
Fast Protocol (≤100mg stool samples)

1. *Add ≤100mg stool samples to a Beads-Beating Tube then add 900µl GM-L1 Buffer and 100µl GM-L2 Buffer immediately, centrifuge briefly to ensure the samples immerse in the buffer.*
2. *Secure tubes horizontally on a Vortex Adapter. Vortex at maximum speed for 10 min.*
3. *Centrifuge 13000 x g for 1 min, transfer up to 800µl supernatant to a new 1.5ml microcentrifuge tube.*
4. *Add 460µl GM-IR Buffer(store at 2-8℃), vortex for 10s.*
5. *Centrifuge 13000 x g for 1 min, transfer up to 800µl supernatant (avoiding the pellet) to a new 1.5ml microcentrifuge tube.*
6. *Add 75µl GM-P1 Buffer (store at 2-8℃) then add 250µl GM-P2 Buffer, inverting the tube 10 – 15 times then spin down, incubating the tube on ice for 5 min.*
7. **Do not vortex. *Do not add GM-P1 Buffer and GM-P2 Buffer prior to the mixture from step5.*
8. *While waiting for the incubation time, you can set up the MagCore instrument. (Or after finish the sample pretreatment: step 8)*
   i. *Load the Tip Plus Holder Set (EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.*
   ii. *Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see below graphs- Well Position of T-Rack).*
9. *Centrifuge 13000 x g for 3 min, discard the supernatant (residual liquid could be less than 30µl), pipette 800µl GM-LY Buffer to resuspend the pellet. Avoid generating too much bubble while resuspending, then transfer up to 850µl to the Sample Tube.*
10. *Place the prepared Sample Tube into the W1 of T-Rack.*
11. *Run Code. 504. (Recommend to use 200µl elution volume for the best DNA yield.)*
12. *If the elute DNA product A260/230 ratio is lower than 1.8, please centrifuge at 16000 x g for 1min, then transfer the supernatant and store at -20℃.*

Well Position of T-Rack

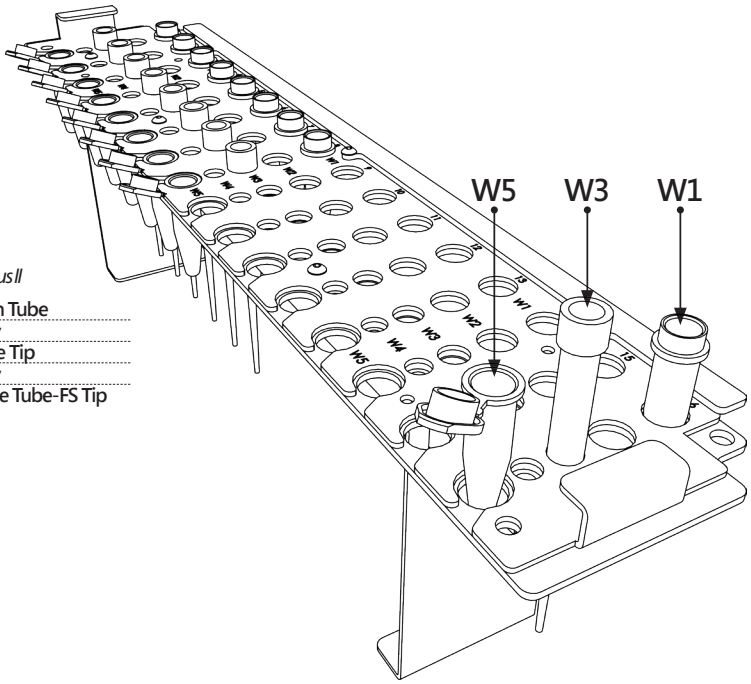
MagCore® Super / MagCore® HF16 Plus

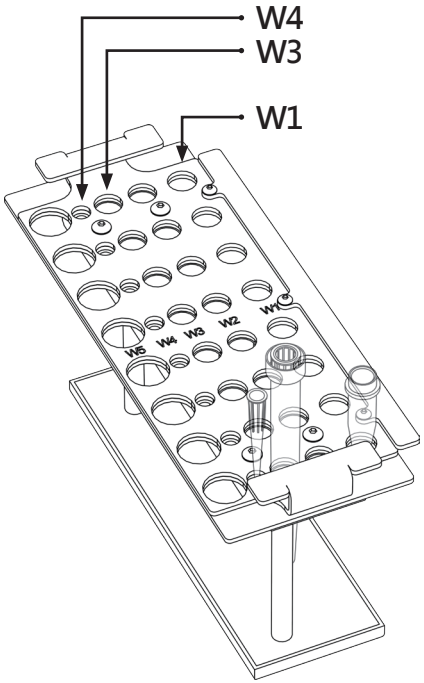
W5	Elution Tube
W4	Empty
W3	Pipette Tip
W2	Empty
W1	Sample Tube



MagCore® Plus II

W5	Elution Tube
W4	Empty
W3	Pipette Tip
W2	Empty
W1	Sample Tube-FS Tip





MagCore® EDA

W5	Empty
W4	SP Tip (for Optical Detection)
W3	Tip Holder set
W2	Empty
W1	Sample Tube

MagCore® Genomic DNA Microbial Library-Ready Kit

For extraction of bacterial and fungal genomic DNA using the MagCore® System.
Applicable models: Super, PlusII, EDA

Cartridge Code 506

Cat.No. MGL-01 // MGL-02

Kit Contents

Check that the following parts are included in addition to the main unit:

Cat.No. MGL-01 Contents:

Pre-filled Cartridge Reagent	*36 pcs.*
Pipet Tip plus Holder Set	*36 pcs.*
Sample Tube	*36 pcs.*
Elution Tube	*36 pcs.*
Beads-Beating Tube	*36 pcs.*
BB-L Buffer(50ml)	*1 pcs.*
BB-FX Buffer(15ml)	*1 pcs.*
RNase A(50mg/ml, 160μl)	*2 pcs.*

Cat.No. MGL-02 Contents:

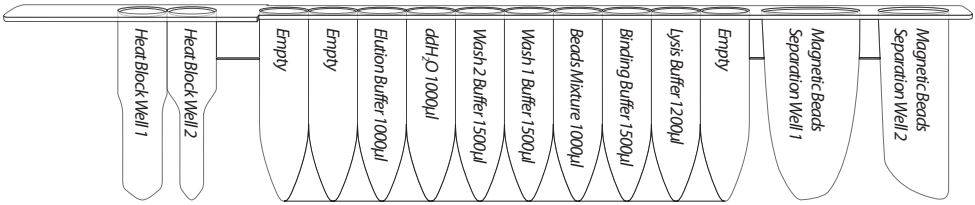
Pre-filled Cartridge Reagent	*96 pcs.*
Pipet Tip plus Holder Set	*96 pcs.*
Sample Tube	*96 pcs.*
Elution Tube	*96 pcs.*
Beads-Beating Tube	*96 pcs.*
BB-L Buffer(50ml)	*2 pcs.*
BB-FX Buffer(15ml)	*2 pcs.*
RNase A(50mg/ml, 400μl)	*2 pcs.*

Storage and Stability :

1. *This kit should be stored at room temperature.*
2. *For long term storage, RNase A should be stored at 2-8 ℃.*
3. *For yeast and fungai: Proteinase K should be stored at 2-8 ℃ upon arrival. (*Not Provided: Cat. No. PK011)*
4. *Shelf Life: 18 Months.*

Note For long-term storage of DNA/RNA, eluate should be store at -20°C/-80°C is recommended.*

Cartridge Contents :



Description

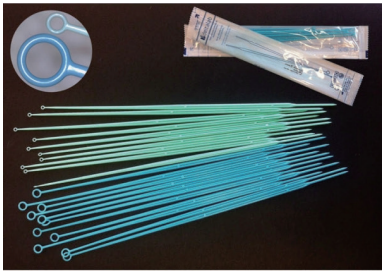
The MagCore® Genomic DNA Microbial Library-Ready Kit is specially designed for isolating high-quality microbial genomic DNA from bacteria, yeast, and fungi. This kit efficiently isolates total DNA from tough-to-lyse Gram-positive and Gram-negative bacteria, as well as yeast and fungi, by overcoming cell wall resistance through effective lysis and homogenization using Bead-Beating Tubes and optimized lysis chemistry. The hands-on time can be completed in as little as 10–25 minutes. In addition, inhibitory substances (e.g., polysaccharides and proteins) commonly present in microbial samples are efficiently removed through a one-step bead-beating process followed by fully automated purification. The purified DNA is ready for downstream molecular applications, including Nanopore sequencing, NGS, qPCR, and 16S rRNA gene sequencing.

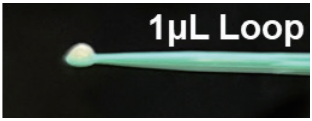
Applications

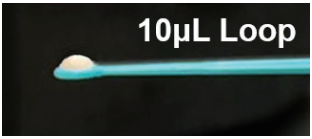
Magnetic-particle technology is used to purify genomic DNA from bacteria, yeast, and fungi. The purified DNA can be directly used in downstream applications such as Nanopore sequencing, NGS, qPCR, and 16S rRNA gene sequencing.

Preparation Before Using

1. Equipment: Microcentrifuge (15,000 × g), Pipette (50-1000µl), Vortex Genie 2, Vortex adapter.
2. For vortex beads-beating homogenization: Place the Beads-Beating Tube on a vortex adapter with horizontal orientation and balance loading during sample homogenize. Vortex Genie 2 with Vortex Adapter for 1.5– 2 ml tubes (cat. no. 13000-V1-24, product of QIAgen) is validated.
3. Plate culture-based materials for scraping and collecting microbial cells: Disposable sterile calibrated inoculating loops (Deltalab, Sterile Calibrated Loops series, 1 µL and 10 µL). (See scheme below.)







4. For yeast and fungi: Add 1.1ml PK Storage Buffer to the Proteinase K tube and mix by vortexing. Store prepared Proteinase K (10mg/ml) at 2-8 ℃. (*Not Provided: Cat. No. PK011)

Bacteria Protocol

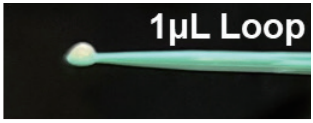
Choose one of the following methods depending on whether your sample is broth- or plate-based(Step 1-4).

For Broth Culture

1. Prepare Beads-Beating Tubes and briefly centrifuge to ensure no beads stick to the tube walls.
   * The number of tubes should correspond to the number of samples.
2. Collect microbial cells equivalent to 4 OD600 units by centrifugation at 5,000 × g for 5 min in a suitable tube (2 mL microcentrifuge tube or 15 mL centrifuge tube, not provided). Carefully remove and discard the supernatant without disturbing the cell pellet.
3. Resuspend the pellet in 850 µL BB-L buffer by pipetting to ensure uniform suspension.
4. Transfer 850 µL of the suspended cells into each Beads-Beating Tube and mix by gently inverting the tube 10 times.
   * Each sample in the Beads-Beating Tube should contain 850 µL BB-L resuspended microbial cells.

For Plate Culture

1. Prepare Beads-Beating Tubes and briefly centrifuge to ensure no beads stick to the tube walls.
   * The number of tubes should correspond to the number of samples.
2. Add 350 µL BB-L buffer to each Beads-Beating Tube.
3. Prepare 1.5 mL microcentrifuge tubes (not provided) and add 500 µL BB-L buffer to each tube.
4. Using a 1 µL disposable inoculating loop, collect two loopfuls of cells from the colony (estimated OD600 ~4–6, as shown in the figure below), resuspend the cells in the microcentrifuge tube prepared in Step 3 by pipetting up and down until well dispersed, then transfer the suspension to the Beads-Beating Tube prepared in Step 2 and mix by gently inverting 10 times.



   * Each Bead-Beating Tube should contain 850 µL of BB-L buffer with resuspended microbial cells.
   * If colonies are viscous, pre-suspend the cells in 500 µL 1× PBS in a microcentrifuge tube by pipetting up and down to break up clumps. Centrifuge at 5,000 × g for 5min, discard the supernatant, and resuspend the pellet in 500µL BB-L buffer prepared in Step 3 before transferring to the Beads-Beating Tube in Step 2.

Sample Lysis (for both Broth and Plate Culture samples)

5. *Vortex Beads-Beating Tubes at maximum speed for 20 min (horizontally fixed).*
   * *Use QIAGEN Vortex Adapter (Model 13000-V1-24) with Vortex Genie 2.*
6. *Centrifuge at 15,000 × g for 5 min. Transfer up to 600 µL supernatant to a Sample tube.*
   * *Avoid debris; transfer the clear middle layer.*
7. *Add 8 µL RNase A (50 mg/mL) to each Sample tube.*
   * *RNase A will be mixed during subsequent loading steps.*
8. *While waiting for the sample lysis time, you can set up the MagCore instrument.*

i. *Load the Tip Plus Holder Set (EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.*

ii. *Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see below graphs- Well Position of T-Rack).*

9. *Place Sample tubes (up to 600 µL supernatant + 8 µL RNase A) into W1 of T-Rack.*
10. *Run Code 506B extraction program (recommended elution volume: 100 µL).*
    * *After completion, carefully remove any residual liquid from W1 to avoid leakage.*

Yeast/Fungi Protocol

Choose one of the following methods depending on whether your sample is broth- or plate-based. (Step 1-6).

**** Not Provided: Proteinase K set (Cat. no. PK011) must be purchased separately for the yeast and fungi protocol.***

For Broth Culture

1. *Prepare Beads-Beating Tubes and briefly centrifuge to ensure no beads stick to the tube walls.*
   * *The number of tubes should correspond to the number of samples.*
2. *Premix fungal lysis buffer by combining BB-L and BB-FX at a 4:1 volume ratio (e.g., 10 mL BB-L : 2.5 mL BB-FX).*
3. *Collect microbial cells equivalent to 20 OD600 units by centrifugation at 5,000 × g for 5 min in a 15 mL centrifuge tube (not provided). Carefully remove and discard the supernatant without disturbing the cell pellet.*
4. *Resuspend the pellet in 850 µL fungal lysis buffer by pipetting to ensure uniform suspension.*
5. *Transfer 850 µL of the suspended cells into each Beads-Beating Tube.*
6. *Add 20 µL Proteinase K (10 mg/mL) to each tube and mix by gently inverting 10 times.*
   * *Each Beads-Beating Tube should contain 850 µL fungal lysis buffer with resuspended microbial cells and 20 µL Proteinase K.*

For Plate Culture

1. *Prepare Beads-Beating Tubes and briefly centrifuge to ensure no beads stick to the tube walls.*
   * *The number of tubes should correspond to the number of samples.*
2. *Premix fungal lysis buffer by combining BB-L and BB-FX at a 4:1 volume ratio (e.g., 10 mL BB-L : 2.5 mL BB-FX).*
3. *Pre-add 350 µL fungal lysis buffer to each Beads-Beating Tube.*
4. *Prepare 1.5 mL microcentrifuge tubes (not provided) and add **500 µL fungal** lysis buffer to each tube.*
5. *Using a 10 µL disposable inoculating loop, collect one loopful of cells from the colony (estimated OD600 ~19-25, as shown in the figure below), resuspend the cells in the microcentrifuge tube prepared in Step 4 by pipetting up and down until well dispersed, then transfer the suspension to the Beads-Beating Tube prepared in Step 3.*

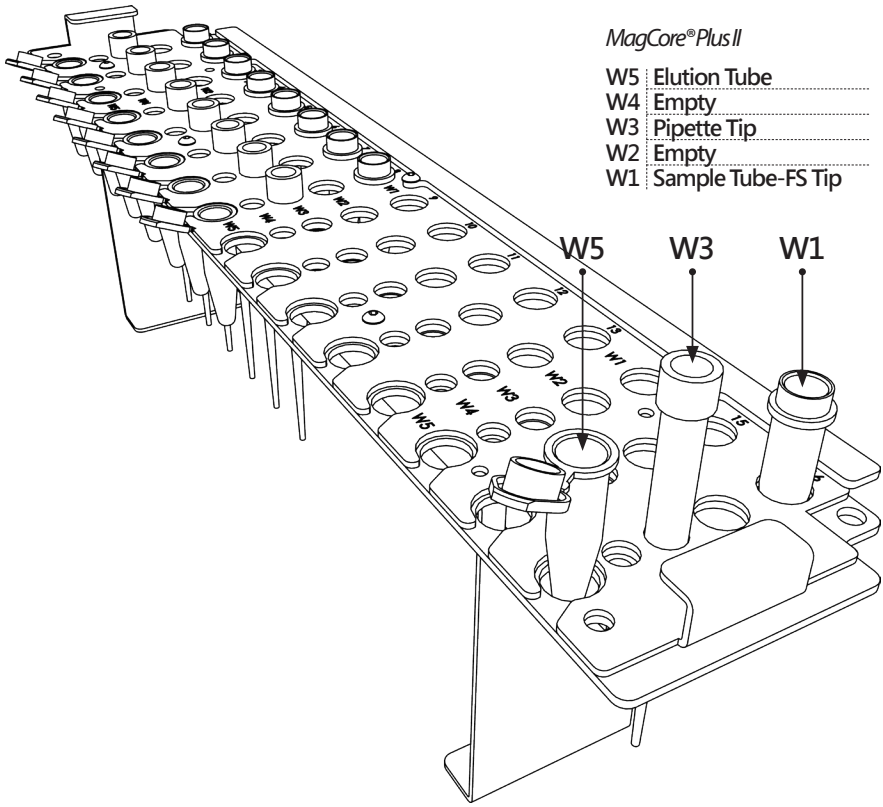


   * *Each Bead-Beating Tube should contain 850 µL of fungal lysis buffer with resuspended microbial cells.*
   * *If colonies are viscous, pre-suspend the cells in 500 µL 1× PBS in a microcentrifuge tube by pipetting up and down to break up clumps. Centrifuge at 5,000 × g for 5min, discard the supernatant, and resuspend the pellet in 500µL fungal lysis buffer prepared in Step 4 before transferring to the Beads-Beating Tube in Step 3.*
6. *Add 20 µL Proteinase K (10 mg/mL) to each tube and mix by gently inverting 10 times.*
   * *Each Beads-Beating Tube should contain 850 µL fungal lysis buffer with resuspended microbial cells and 20 µL Proteinase K.*

Sample Lysis (for both Broth and Plate Culture samples)

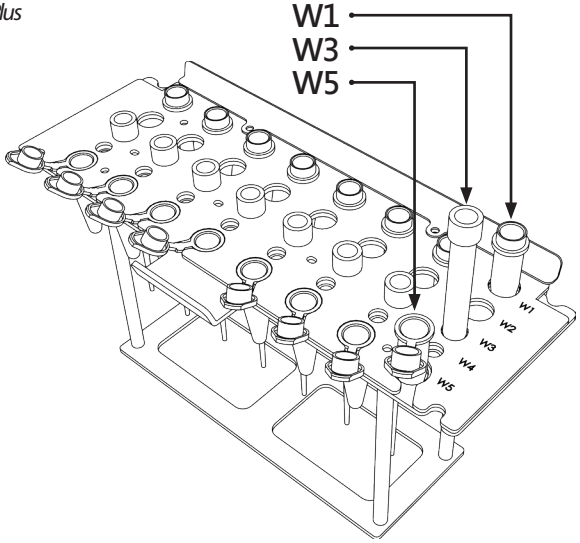
7. *Vortex Beads-Beating Tubes at maximum speed for 20-25 min (horizontally fixed).*
   * *For Yeast and Candida, a bead-beating time of 20 minutes is recommended.*
   * *Use QIAGEN Vortex Adapter (Model 13000-V1-24) with Vortex Genie 2.*
8. *Centrifuge at 15,000 × g for 10 min. Transfer up to 600 µL supernatant to a Sample tube.*
   * *Avoid debris; transfer the clear middle layer. *Maximum volume per tube: 600 µL.*
9. *Add 8 µL RNase A (50 mg/mL) to each Sample tube.*
   * *RNase A will be mixed during subsequent loading steps.*
10. *While waiting for the sample lysis time, you can set up the MagCore instrument.*
    i. *Load the Tip Plus Holder Set (EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.*
    ii. *Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see below graphs- Well Position of T-Rack).*
11. *Place Sample tubes (up to 600 µL supernatant + 8 µL RNase A) into W1 of T-Rack.*
12. *Run Code 506F extraction program (recommended elution volume: 100 µL).*
    * *After completion, carefully remove any residual liquid from W1 to avoid leakage.*

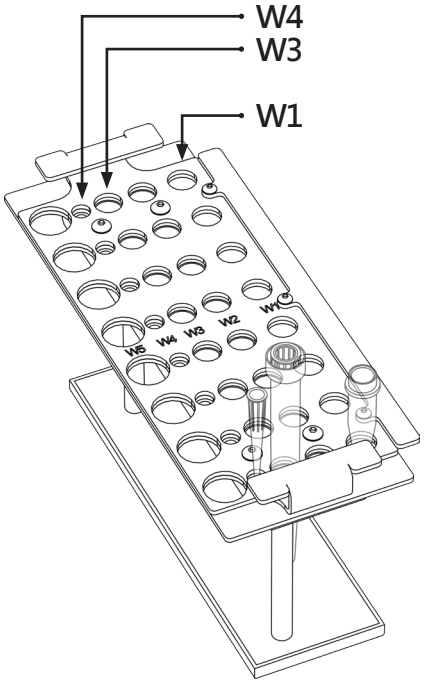
Well Position of T-Rack



MagCore® Super / MagCore® HF16 Plus

W5	Elution Tube
W4	Empty
W3	Pipette Tip
W2	Empty
W1	Sample Tube





MagCore® EDA

W5	Empty
W4	SP Tip (for Optical Detection)
W3	Tip Holder set
W2	Empty
W1	Sample Tube

MagCore® Total RNA FFPE One-Step Kit

For extraction of total RNA from formalin-fixed paraffin-embedded (FFPE) tissue by using MagCore® System.
Applicable models: HF16, Compact, HF48, Super, HF16 Plus, Plus II, EDA

Cartridge Code 605

Cat No.MRF-01 // MRF-03

Kit Contents

Check that the following parts are included in addition to the main unit:

Cat. No. MRF-01 Contents:

Pre-filled Cartridge Reagent	*24 pcs.*
Pipet Tip plus Holder Set	*48 sets.*
Elution Tube	*24 pcs.*
Sula Oil (25 ml)	*1 pcs.*
Thermostable Cap	*24 pcs.*

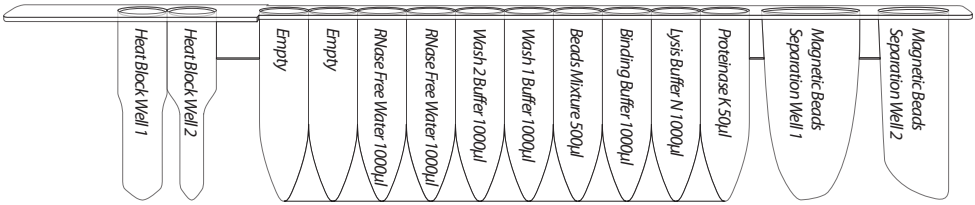
Cat. No. MRF-03 Contents:

Pre-filled Cartridge Reagent	*72 pcs.*
Pipet Tip plus Holder Set	*144 sets.*
Elution Tube	*72 pcs.*
Sula Oil (50ml)	*1 pcs.*
Thermostable Cap	*72 pcs.*

Storage and Stability:

1. This kit should be stored at room temperature (15-25°C).
2. Shelf Life:12 Months.
Note For long-term storage of DNA/RNA, eluate should be store at -20°C/-80°C is recommended.*

Cartridge Contents :



Description

MagCore® total RNA FFPE One-Step Kit is specially designed for total RNA purification from FFPE tissues by MagCore® instruments. It features the method, one-step heating, to melt paraffin without harmful reagents involved such as xylene or other organic solvents, and lyse tissues at the same time. The MagCore® total RNA FFPE One-Step Kit System optimizes the lysis conditions to reverse the formalin fixation without the need for overnight digestion and retain both large and small RNAs. The program provides optional DNase I treatment to remove contaminated DNA.

Applications

Using magnetic-particle technology to purify total RNA from FFPE tissues. The purified RNA can be directly used for downstream application such as real-time PCR, RT-PCR, cDNA synthesis, etc.

Preparation Before Using

1. **Recommended Step:** DNase I Treatment. Prepare DNase I (RNase-free) working solution: add 10 µl DNase I with 16 µl DNase reaction buffer (1X) in 1.5 ml screw tube (not provided) and place it into the W4 (HF-16, Compact)/ W1 (Super, Plus, Plus II, EDA) of T-Rack.
2. RNase-free DNase I is not included in MagCore® Total RNA FFPE One-Step Kit, we recommend using RBC RNase-free DNase I (Cat#DN036 or Cat#DN096) for reducing the possibility of genomic DNA carryover. For more product information, please contact your local distributor.
3. **It is not available for optics measurement when you set up the elution volume is 40µl.**

RNase Precautions

1. Before working with RNA, it is a good idea to use RNA decontamination solution to clean the lab bench, pipettors, and microtome.
2. When performing extraction with MagCore® Total RNA FFPE One-step Kit, always wear a suitable lab coat, disposable gloves, and protective mask. Do not talk during the experiment to avoid contamination.
3. Ensure that the experimental environment is suitable for operating RNA experiments.

Needle-Like FFPE Tissue Sections Protocol

1. Cut 5-50µm sections from FFPE tissue blocks by using a microtome.
2. Take the equivalent of ≤50µm tissue sections into 1.5ml microcentrifuge tube. (See Important notes)
3. Trim the excess paraffin from the tissue sections.
4. Use a RNase-free pipette tip to put the tissue sections from step 3. into the bottom of **Heat Block well 1** of the cartridge.
5. Add 500µl of **Sula oil**, ensure the tissue sections can totally immerse in Sula oil*, and cover it up with the **Thermostable cap**.
6. *If samples are too long to immerse in Sula oil, use a RNase-free pipet tip to cut and push the samples into the solution.

MagCore® Operation

Without DNase I Treatment

1. Follow the **Needle-like FFPE sections Protocol step 1-6**.
2. Put Elution Tube and 2 set of Tip Plus Holder Set (HF16,Compact, EDA) / Pipette Tip and Tip Plus Holder Set (Super, Plus, Plus II) into the correct wells of T-Rack. (see below graphs- Well Position of T-Rack)
3. Run Code 605 program at MagCore® and select "Select DNase treatment" (2) NO.

With DNase I Treatment

1. Follow the Needle-like FFPE sections Protocol step 1-6.
2. Be sure to place the 26 µl DNase I mixture (in 1.5 ml screw tube) into t the W4 (HF-16, Compact)/ W1 (Super, Plus, Plus II, EDA) of T-Rack. (see below graphs- Well Position of T-Rack)
3. Put Elution Tube and 2 set of Tip Plus Holder Set (HF16,Compact, EDA) / Pipette Tip and Tip Plus Holder Set (Super, Plus, Plus II) into the correct wells of T-Rack. (see below graphs- Well Position of T-Rack)
4. Run Code 605 program at MagCore® and select "Select DNase treatment" (1) YES.

Important Notes for Needle-Like FFPE Tissue Sections

Tissue Section (µm)	Sample Scroll
50	1-3
20	1-4
10	1-5 (Don't over lood 5 scrolls)

Glass-slide FFPE Tissue Samples Protocol

1. Put a few drops of Sula Oil on the glass slide and scrape them from the slide carefully, then put in the bottom of **Heat Block well 1**. (See Important notes)
2. Add 500µl Sula Oil into **Heat Block well 1**, rinse remaining sample on the wall and blade, then cover it up with the Thermostable cap.

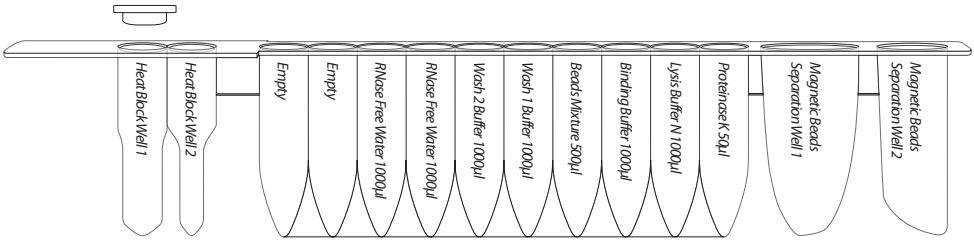
MagCore® Operation

Without DNase I Treatment

1. Follow the **Glass-slide FFPE Tissue Samples Protocol Steps 1-2**.
2. Put Elution Tube and 2 set of Tip Plus Holder Set (HF16, Compact, EDA) / Pipette Tip (W3) + Pipette Tip/Tip Holder (W2) (Super, Plus, Plus II) into the correct wells of the T-Rack. (see below graphs- Well Position of T-Rack)
3. Run Code 605 program at MagCore® and select "Select DNase treatment" (2) NO.

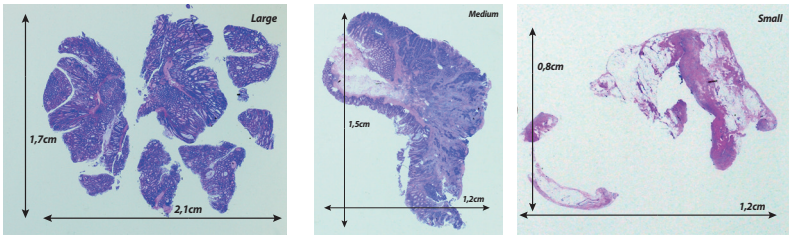
With DNase I Treatment

1. Follow the **Needle-like FFPE Samples Protocol Steps 1-2**.
2. Be sure to place the 26 µl DNase I mixture (in 1.5 ml screw tube) into t the W4 (HF-16, Compact)/W1 (Super, Plus, Plus II, EDA) of T-Rack. (see below graphs- Well Position of T-Rack)
3. Put Elution Tube and 2 set of Tip Plus Holder Set (HF16,Compact, EDA) / Pipette Tip and Tip Plus Holder Set (Super, Plus, Plus II) into the correct wells of T-Rack. (see below graphs- Well Position of T-Rack)
4. Run Code 605 program at MagCore® and select "Select DNase treatment" (1) YES.



Important Notes for Glass-slide FFPE Tissue Samples

1. The surface area of the FFPE tissue slide samples could be measured as following examples:



2. Slide samples amount of preparation can be 1-5 scrolls, **each with a thickness up to 5µm**. One FFPE scroll could be enough to analyze if the surface area is over 200 mm²

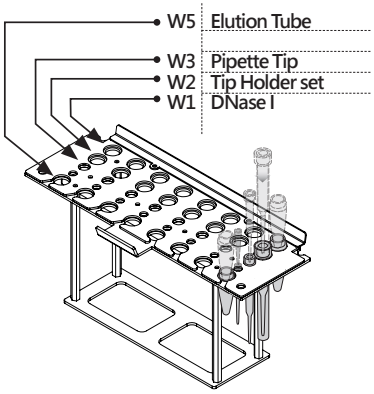
Surface Area (mm^2)	Sample Scroll
200 ↑	1
100-200	1-2
50-100	2-3
50 ↓	3-5 (Don't over load 5 scrolls)

*Overload the sample or paraffin will clog the tip and decrease the yield.

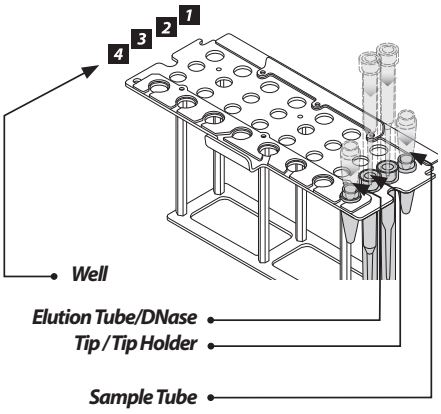
3. If you have no information about the sample, we recommend starting with 1-2 scrolls.
4. Sula Oil is a deparaffin solution. The capacity of the Sula Oil (500µl) is about 20mg paraffin per preparation.

Well Position of T-Rack

MagCore® Super / MagCore® HF16 Plus

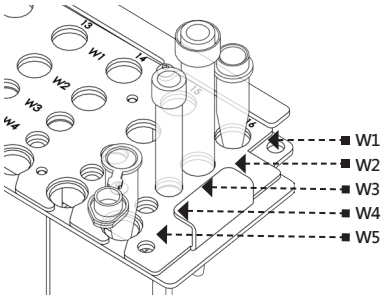


MagCore® HF16 / MagCore® Compact

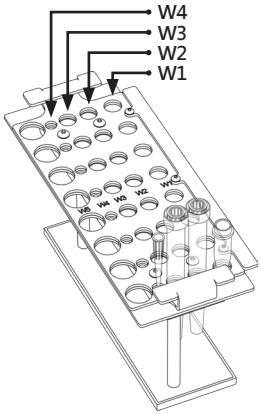


MagCore® Plus II

W5	Elution Tube
W4	Empty
W3	Pipette Tip
W2	Tip Holder set
W1	DNase



MagCore® EDA



W5	Empty
W4	SP Tip (for Optical Detection)
W3	Tip Holder set
W2	Tip Holder set
W1	1.5 ml Screw Tube (for DNase I Treatment)

Magcore Plasma microRNA Extraction Kit

For extraction of free circulating miRNA from human plasma or serum.
Applicable models: HF16, Super, HF16 Plus, Plus II, EDA

Cartridge Code 620

Cat. No.MMR-01//MMR-03

Kit Contents

Check that the following parts are included in addition to the main unit:

Cat. No.MMR-01 Contents:

Pre-filled Cartridge Reagent	*24 pcs.*
Pipet Tip plus Holder Set	*24 sets.*
Sample Tube	*24 pcs.*
Elution Tube	*24 pcs.*
RB Buffer(15ml)	*1 pcs.*
RP Buffer(10ml)	*1 pcs.*

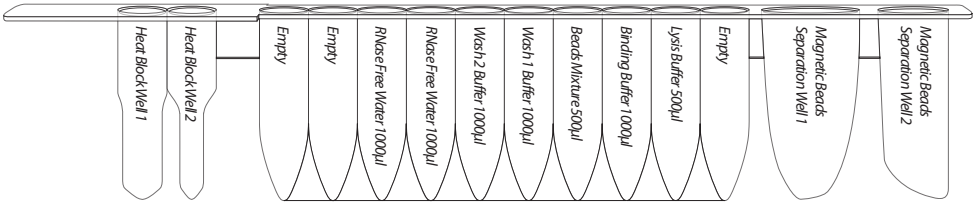
Cat. No. MMR-03 Contents:

Pre-filled Cartridge Reagent	*72 pcs.*
Pipet Tip plus Holder Set	*72 sets.*
Sample Tube	*72 pcs.*
Elution Tube	*72 pcs.*
RB Buffer(15ml)	*1 pcs.*
RP Buffer(10ml)	*1 pcs.*

Storage and Stability :

1. This kit should be stored at room temperature.
2. Shelf Life: 18 Months.
Note For long-term storage of DNA/RNA, eluate should be store at -20°C/-80°C is recommended.*

Cartridge Contents :



Description

Magcore Plasma microRNA Extraction Kit is designed for purification of miRNA from 0.4 ml of serum, plasma by using MagCore® auto-extraction instrument. With all the kit components of plastic consumables are DNase/ RNase –Free pretreated, and individual processing track for each loaded samples, this system eliminates all possible cross contamination between samples. Built-in protocol with flexibility in sample source volumes, plasma miRNA can be extracted using this kit in a fast and economical way.

Applications

The purified total nucleic acid is suitable for highly sensitive and quantitative PCR. Magcore Plasma microRNA Extraction Kit has been proven with various genomic analyses as downstream applications.

Preparation Before Using

1. DNase I Treatment Step: Prepare DNase I (RNase-free) working solution: add 10 µl DNase I with 190 µl DNase reaction buffer (1X) in 1.5 ml screw tube (not provided) and place it into well 2 of T-Rack. (see page 5-18)
2. RNase-free DNase I is not included in Magcore Plasma microRNA Extraction Kit, we recommend using RBC RNase-free DNase I (Cat#DN036 or Cat#DN096) for genomic DNA treatment. For more product information, please contact your local distributor.

***DNase I treatment step is not recommended for plasma or serum samples, because it will result in low levels of RNA. However, it is suggested for certain RNA applications that are sensitive to low amounts of DNA. Please note that selecting DNase I treatment step might lead to losses in miRNA yield.**

Protocol

Without DNase I Treatment

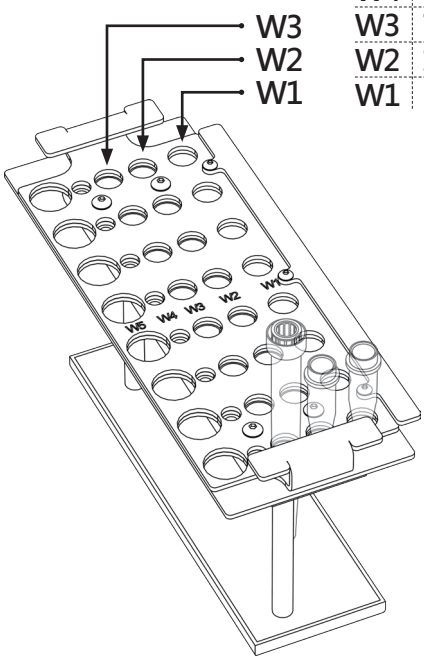
1. Add 0.4 ml of serum, plasma into a RNase-free 1.5 mL tube (not provided).
2. Add 120 µl RB Buffer into 1.5 mL tube and mix by vortexing for 5 seconds.
3. Incubate at room temperature for 3 minutes.
4. Add 40 µl RP Buffer into 1.5 mL tube and mix by vortexing for 20 seconds.
5. Incubate at room temperature for 3 minutes.
6. Centrifuge for 3 minutes at 12000 x g. And transfer the supernatant 400 µl to the MagCore® Sample Tube.
7. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
8. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
9. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
10. Run Code 620 program at MagCore® and select (2) NO to "Select DNase treatment".

With DNase I Treatment

1. Add 0.4 ml of serum, plasma into a RNase-free 1.5 mL tube (not provided).
2. Add 120 µl RB Buffer into 1.5 mL tube and mix by vortexing for 5 seconds.
3. Incubate at room temperature for 3 minutes.
4. Add 40 µl RP Buffer into 1.5 mL tube and mix by vortexing for 20 seconds.
5. Incubate at room temperature for 3 minutes.
6. Centrifuge for 3 minutes at 12000 x g. And transfer the supernatant 400 µl to the MagCore® Sample Tube.
7. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
8. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
9. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
10. Be sure to place the 200 µl DNase I mixture (in 1.5 ml screw tube) into the correct well of T-Rack. (see page 5-18)
11. Run Code 620 program at MagCore® and select (1) YES for Select DNase treatment.

***Please refer to commercial RT-PCR kit manual for further application. Usually, cDNA is suggested to be diluted (2-10 times) prior to PCR reaction.**

EDA T-Rack Tube and Tip Position Configuration



W5	Empty
W4	Empty
W3	Tip Holder set
W2	1.5 ml Screw Tube (for DNase I Treatment)
W1	Sample Tube

MagCore® triXact RNA Kit

For extraction of total RNA from cultured cells, human whole blood, PAXgene RNA Blood Tube and animal tissues.

Applicable models: HF16, Compact, HF48, Super, HF16 Plus, Plus II, EDA

Cartridge Code 631

Cat. No.MRX-01 // MRX-03

Kit Contents

Check that the following parts are included in addition to the main unit:

Cat. No. MRX-01 Contents:

Pre-filled Cartridge Reagent	*24pcs.*
Pipet Tip plus Holder Set	*24pcs.*
Sample Tube	*24pcs.*
Elution Tube	*24pcs.*
RBC Lysis Buffer (100 ml)	*1 pcs.*
RL Buffer(30ml)	*1 pcs.*
Filter column Set	*25pcs.*

Cat. No. MRX-03 Contents:

Pre-filled Cartridge Reagent	*72pcs.*
Pipet Tip plus Holder Set	*72pcs.*
Sample Tube	*72pcs.*
Elution Tube	*72pcs.*
RBC Lysis Buffer (200 ml)	*1 pcs.*
RL Buffer(60ml)	*1 pcs.*
Filter column Set	*75pcs.*

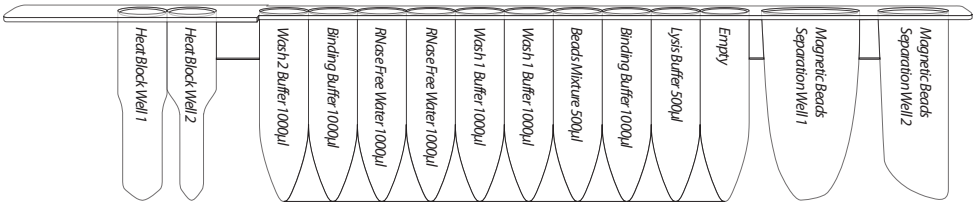
Storage and Stability :

1. This kit should be stored at room temperature.

2. Shelf Life:18 Months.

Note For long-term storage of DNA/RNA, eluate should be store at -20°C/-80°C is recommended.*

Cartridge Contents :



Description

MagCore® triXact RNA Kit is specially designed for total RNA purification from cultured cells, a variety of tissues, or whole blood, and PAXgene RNA blood tube. The program provides optional DNase I treatment to remove residual DNA from contaminating the results. High quality DNA-free RNA can be extracted using this kit along with our RNase-free DNase I.

Applications

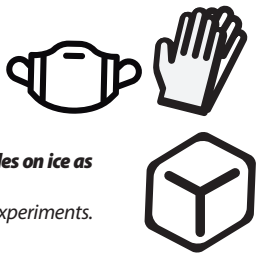
Using magnetic-particle technology to purify total RNA purification from cultured cells, a variety of tissues, whole blood, or PAXgene RNA blood tube. The purified RNA can be directly used for downstream application such as real-time PCR, RT-PCR, cDNA synthesis, etc.

Preparation Before Using

1. β-Mercaptoethanol (β-ME; not provided) must be added to RL Buffer before use. Add 10 µl of β-ME per 1 ml of RL Buffer.
2. Recommended Step: DNase I Treatment. Prepare DNase I (RNase-free) working solution: add 10 µl DNase I with 190 µl DNase reaction buffer (1X) in 1.5 ml screw tube (not provided) and place it into well 2 of T-Rack. (see page 5-18)
3. RNase-free DNase I is not included in MagCore® triXact RNA Kit, we recommend using RBC RNase-free DNase I (Cat#DN036 or Cat#DN096) for genomic DNA treatment. For more product information, please contact your local distributor.

Important Notes

1. When fresh samples (including whole blood, cells, and tissues) are obtained, samples are subjected to the following protocol as soon as possible (within one day). If you do not extract RNA immediately, lyse the samples in the RL Buffer for stabilization. The samples can be stored at -80°C up to 1 month in the RL Buffer.
2. When doing extraction with MagCore® triXact RNA Kit, always wear a suitable lab coat, disposable gloves, and protective mask. Also, ***always keep the samples on ice as much as possible***. Do not talk during the experiment to avoid contamination.
3. Ensure that the experimental environment is suitable for operating RNA experiments. Performing the extraction in the hood is recommended.



Cultured Cells Protocol

Sample Preparation

A. Cells grown in suspension

For cells grown in suspension (up to $3*10^7$ cells), first determine the number of cells. Transfer appropriate number of cells to the MagCore® Sample Tube (provided) and centrifuge at 500g for 3 minutes. Remove the supernatant completely and discard. Continue with MagCore® Operation steps.

B. Cells grown in a monolayer

For cells grown in a monolayer (up to $3*10^7$ cells), cells can be detached from the culture flask by either trypsinization or using a cell scraper

To trypsinize cells:

Determine the number of cells. Aspirate the medium and wash cells with PBS (not provided). Aspirate the PBS, and add 0.10-0.25% trypsin. Once cells have detached from the dish or flask, collect them in medium, and transfer the appropriate number of cells(up to $3*10^7$ cells) to the MagCore® Sample Tube (provided). Centrifuge at 500g for 3 minutes. Remove the supernatant completely and discard. Be careful not to disturb the cell pellet. Continue with MagCore® Operation steps.

Using a cell scraper:

Detach cells from the dish or flask. Transfer the appropriate number of cells (up to $3*10^7$ cells) to the MagCore® Sample Tube (provided) and centrifuge at 500g for 3 minutes. Remove the supernatant completely and discard. Be careful not to disturb the cell pellet. Continue with MagCore® Operation steps.

MagCore® Operation

Low Count (up to $5*10^6$) Cultured Cells Protocol

Without DNase I Treatment

Follow the steps below:

1. Add 400 µl RL Buffer (contain β-ME) to the cell pellet and mix by vortexing, keep the samples on ice. (can store up to 1 month at -80°C)
2. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
3. Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
4. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).
5. Run Code 631 program at MagCore® and select (2) NO to "Select DNase treatment".

With DNase I Treatment

Follow the steps below:

1. *Add 400 µl RL Buffer (contain β-ME) to the cell pellet and mix by vortexing, keep the samples on ice. (can store up to 1 month at -80°C)*
2. *Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)*
3. *Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.*
4. *Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).*
5. *Be sure to place the 200 µl DNase I mixture (in 1.5 ml screw tube) into the correct well of T-Rack. (see page 5-18)*
6. *Run Code 631 program at MagCore® and select (1) YES for Select DNase treatment.*

High Count ($5*10^6$~$3*10^7$) Cultured Cells Protocol (Only For Super, Plus II, EDA)

Must With DNase I Treatment

Follow the steps below:

1. *Follow Sample Preparation step*
2. *Add 400 µl RL buffer (contain β-ME) to the pellet and mix by pipetting until the cells are completely lysed. (Cut the end of pipet tip to make pipetting easier) Do not vortex. (can store up to 1 month at -80°C).*
3. *Transfer the suspended cells to the MagCore® Sample Tube.*
4. *Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)*
5. *Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.*
6. *Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18)*
7. *Be sure to place the 200 µl DNase I mixture (in 1.5 ml screw tube) into the correct well of T-Rack. (see page 5-18)*
8. *Run Code **631B** program on MagCore® and select (1) **YES for Select DNase treatment**.*

Fresh Whole Blood Protocol

400 µl Fresh whole blood Protocol

Follow the steps below:

1. *Add 1 volume of human whole blood with 3 volumes of RBC lysis Buffer in an appropriately sized tube (not provided) and mix by inversion. Do not vortex. (For example, add 1200 µl of RBC lysis Buffer to 400 µl of whole blood.)*
2. *Incubate the tube on ice for 10 minutes and invert 2~3 times during incubation.*
3. *Centrifuge for 3 minutes at 500 x g at 4°C and completely discard the supernatant.*
4. *Add 500 µl RBC lysis Buffer to the cell pellet. Resuspend cells and mix by gentle pipetting. Do not vortex, keep the samples on ice.*
5. *Centrifuge for 3 minutes at 500 x g at 4°C and discard the supernatant completely.*
6. *Add 400 µl RL buffer (contain β-ME) to the pellet and mix by vortexing, keep the samples on ice. (Can store up to 1 month at -80°C)*
7. *Transfer the suspended cells to the MagCore Sample Tube.*

Without DNase I Treatment

1. *Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)*
2. *Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.*
3. *Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).*
4. *Run Code 631 program on MagCore® and select DNase treatment (2) NO.*

With DNase I Treatment

1. *Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)*
2. *Be sure to place the 200 µl DNase I mixture (in 1.5 ml screw tube) into the correct well of T-Rack. (see page 5-18)*
3. *Put Elution Tube and Tip Plus Holder Set (HF16,Compact, EDA) / Pipette Tip (Super, Plus, Plus II) into wells 3*
4. *Run Code 631 program on MagCore® and select (1) YES for Select DNase treatment.*

2400 µl Fresh Whole Blood Protocol (Only For Super, Plus II, EDA)
(RBC Lysis Buffer must be purchased separately. Cat#: S44090200.
For more product information, please contact your local distributor.)

Must With DNase I Treatment

Follow the steps below:

1. *Add 1 volume of human whole blood with 3 volumes of RBC lysis Buffer in an appropriately sized tube (not provided) and mix by inversion. Do not vortex. (For example, add 7200 µl of RBC lysis Buffer to 2400 µl of whole blood.)*
2. *Incubate the tube on ice for 10 minutes and invert 2~3 times during incubation.*
3. *Centrifuge for 5 minutes at 500 x g at 4°C and completely discard the supernatant.*
4. *Add 3000 µl RBC lysis Buffer to the cell pellet. Resuspend cells by pipetting, keep the samples on ice.*
5. *Centrifuge for 5 minutes at 500 x g at 4°C and discard the supernatant completely.*
6. *Add 400 µl RL buffer (contain β-ME) to the pellet and mix by pipetting until the cells are completely lysed. (Cut the end of pipet tip to make pipetting easier) Do not vortex. (can store up to 1 month at -80°C).*
7. *Transfer the lysate to the MagCore® Sample Tube.*
8. *Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)*
9. *Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.*
10. *Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18)*
11. *Be sure to place the 200 µl DNase I mixture (in 1.5 ml screw tube) into the correct well of T-Rack. (see page 5-18)*
12. *Run Code **631B** program on MagCore® and select (1) **YES for Select DNase treatment**.*

PAXgene RNA Blood Tube Protocol (Only For Super, Plus II, EDA)

Follow the steps below:

1. *Incubate PAXgene RNA Blood Tube at room temperature for 2 hours before extraction.*
2. *Add up to 6000µl PAXgene RNA Blood Tube to 15 ml spin tube.*
3. *Centrifuge for 10 minutes at 4000 x g at room temperature and completely discard the supernatant.*
4. *Add 1/2 of PAXgene RNA Blood Tube volume of RNase Free Water to the pellet. Resuspend pellet by pipetting. (For example, add 6000 µl RNase Free Water if PAXgene RNA Blood Tube volume is 6000 µl.)*
5. *Centrifuge for 10 minutes at 4000 x g at room temperature and completely discard the supernatant.*
6. *Add 400 µl RL buffer (contain β-ME) to the pellet and mix by pipetting. (Cut the end of pipet tip to make pipetting easier.)*
7. *Transfer the clear supernatant to Sample Tube. (Can store up to 1 month at-80°C)..*

Without DNase I Treatment

1. *Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)*
2. *Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.*
3. *Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).*
4. *Run Code **631B** program on MagCore® and select DNase treatment (2) NO.*

With DNase I Treatment

1. *Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)*
2. *Be sure to place the 200 µl DNase I mixture (in 1.5 ml screw tube) into the correct well of T-Rack. (see page 5-18)*
3. *Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)*
4. *Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.*
5. *Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18)*
6. *Run Code **631B** program on MagCore® and select (1) YES for Select DNase treatment.*

Tissue Protocol

Cell Lysis

Follow the steps below:

1. *Cut off up to 50 mg of fresh or frozen animal tissue and transfer into a RNase-free microcentrifuge tube(not provided).*
2. *Add 400 µl RL Buffer (containing β-ME) into the tube and use RNase-free micropestle (not provided) to sufficiently grind the tissue a few times.*
3. *Incubate at room temperature for 5 minutes. Use a Filter Column Set and apply sample mixture to the column.*
4. *Centrifuge the filtrate for 2 minutes at full speed (10000 x g or 13000 rpm) and transfer the clear supernatant to Sample Tube, keep the samples on ice.*

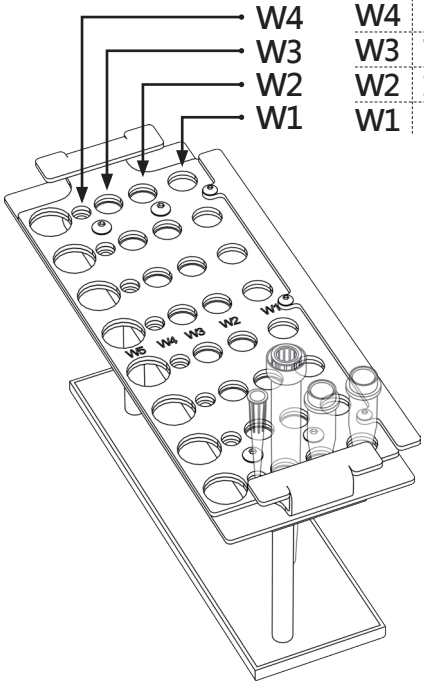
Without DNase I Treatment

1. *Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)*
2. *Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.*
3. *Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).*
4. *Run Code 631 program on MagCore® and select (2) NO to "Select DNase treatment".*

With DNase I Treatment

1. *Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)*
2. *Load the Tip Plus Holder Set (HF16, Compact, EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.*
3. *Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position (see page 5–18).*
4. *Be sure to place the 200 µl DNase I mixture (in 1.5 ml screw tube) into the correct well of T-Rack. (see page 5-18)*
5. *Run Code 631 program on MagCore® and select (1) YES for Select DNase treatment.*

EDA T-Rack Tube and Tip Position Configuration



W5	Empty
W4	SP Tip (for Optical Detection)
W3	Tip Holder set
W2	1.5 ml Screw Tube (for DNase I Treatment)
W1	Sample Tube

MagCore® mRNA One-Step Kit

For extraction of poly(A)-mRNA from human whole blood, culture animal cell, total RNA.
Applicable models: Super, Plus II, EDA

Cartridge Code 639

Cat. No.MRM-01 // MRM-03

Kit Contents

Check that the following parts are included in addition to the main unit:

Cat. No. MRM-01 Contents:

Pre-filled Cartridge Reagent	*24pcs.*
mRNA beads Mixture (13mL)	*1pcs.*
Pipet Tip plus Holder Set	*24pcs.*
Sample Tube	*24pcs.*
Elution Tube	*24pcs.*
Lysis buffer (mRNA)(10 ml)	*1 pcs.*
RBC lysis buffer(200 ml)	*1 pcs.*

Cat. No. MRX-03 Contents:

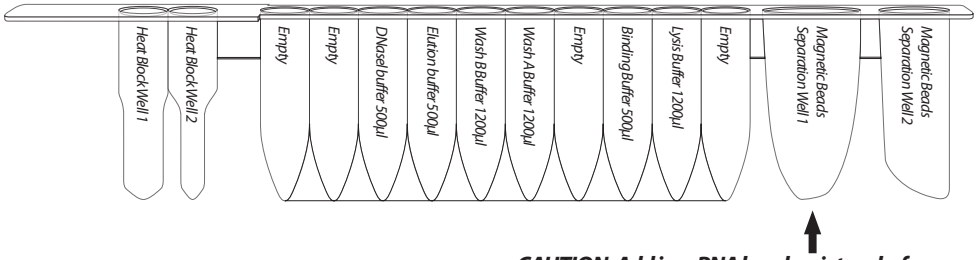
Pre-filled Cartridge Reagent	*72pcs.*
mRNA beads Mixture (13mL)	*3pcs.*
Pipet Tip plus Holder Set	*72pcs.*
Sample Tube	*72pcs.*
Elution Tube	*72pcs.*
Lysis buffer (mRNA)(30 ml)	*1 pcs.*
RBC lysis buffer(200 ml)	*2 pcs.*

Storage and Stability :

1. *This kit should be stored at RT*
2. *mRNA Beads Mixture should be stored at 2°C to 8°C. Do not freeze.*
3. *Shelf life 18 months.*

Note For long-term storage of DNA/RNA, eluate should be store at -20°C/-80°C is recommended.*

Cartridge Contents :



CAUTION: Add in mRNA beads mixture before use

Description

MagCore® mRNA One-Step Kit is specially designed for poly(A)-mRNA purification from human whole blood / culture animal cell / total RNA. The program provides optional DNase I treatment to remove residual DNA from contaminating the results. High quality DNA-free mRNA can be extracted using this kit along with our RNase-free DNase I.

The isolation protocol relies on base pairing between the polyA residues at the 3' end of most eukaryote mRNA, and the oligo (dT)25 residues covalently coupled to the surface of the beads. Other RNA species lacking a polyA tail will not hybridize with the beads and are readily washed away.

Applications

Using magnetic-particle technology to purify poly(A)-mRNA from human whole blood/ culture animal cell / total RNA samples. The purified poly(A)-mRNA can be directly used for downstream application such as real-time RT-PCR, RT-PCR, cDNA synthesis etc.

Preparation Before Using

1. Shake and vortex mRNA Beads Mixture, and add 500µl mRNA beads to Magnetic Beads Separation Well 1.
2. Recommended Step: DNase I Treatment. Prepare DNase I (RNase-free) working solution: add 10 µl DNase I with 190 µl DNase reaction buffer (1X) in 1.5 ml screw tube (not provided) and place it into well 2 of T-Rack.

Fresh Whole Blood Protocol

Pre-treatment

Follow the steps below:

1. Add 1 volume of human whole blood (up to 1200µl) with 3 volumes of RBC lysis Buffer in an appropriately sized tube (not provided) and mix by inversion. Do not vortex. (For example, add 3600 µl of RBC lysis Buffer to 1200 µl of whole blood.)
2. Incubate the tube on ice for 10 minutes and invert 2~3 times during incubation.
3. Centrifuge for 3 minutes at 500 x g at 4℃ and completely discard the supernatant.
4. Add 1.25 volume of RBC lysis Buffer (up to 1500µl) to the cell pellet. Resuspend cells by pipetting, keep the samples on ice.
5. Transfer the suspended cells to the MagCore® Sample Tube.
6. Centrifuge for 3 minutes at 500 x g at 4℃ and discard the supernatant completely.
7. Add 400 µl Lysis buffer (mRNA) to the pellet and mix by pipetting and vortexing, keep the samples on ice (can store up to 1 month at -80℃).
8. Put the prepared Sample Tube into the correct well of T-Rack. (see page 5-18)
9. Load the Tip Plus Holder Set (EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
10. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position. (see page 5-18)
11. Recommended Step: Be sure to place the 200 µl DNase I mixture (in 1.5 ml screw tube) into the correct well of T-Rack. (see page 5-13)
12. Run Code 639 program on MagCore® and select (1) YES/No for Select DNase treatment and (2) sample vol. 400, and(3) elution vol. 100/60/40.

Without pre-treatment

Follow the steps below:

1. Add 200/400 µl human whole blood to the MagCore® Sample Tube
2. Put the prepared Sample Tube into the correct well of T-Rack.
3. Load the Tip Plus Holder Set (EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
4. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position. (see page 5-18)
5. Recommended Step: Be sure to place the 200 µl DNase I mixture (in 1.5 ml screw tube) into the correct well of T-Rack. (see page 5-13)
6. Run Code 639 program on MagCore® and select
   (1) YES/No for Select DNase treatment
   (2) sample vol. 200/400
   (3) elution vol. 100/60/40.

Cultured Cells Protocol

Follow the steps below:

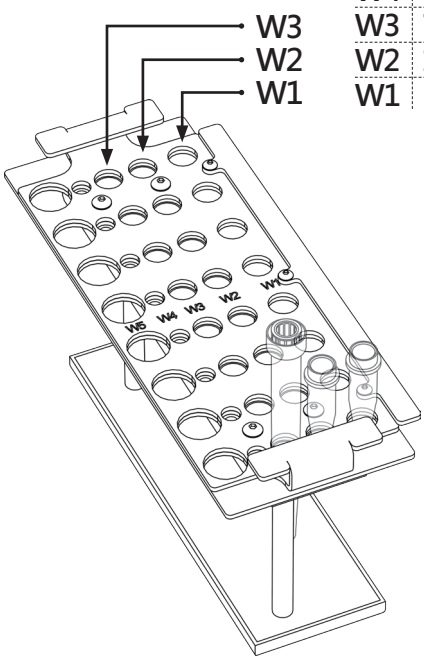
1. Add culture cell (up to $5*10^6$) to the MagCore® Sample Tube.
2. Add Lysis buffer (mRNA) to total volume 200 µl (cell less than $2.5*10^6$) / 400 µl (cell less than $5*10^6$) to the cell sample tube.
3. Put the prepared Sample Tube into the correct well of T-Rack.
4. Load the Tip Plus Holder Set (EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.
5. Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position. (see page 5-18).
6. Recommended Step: Be sure to place the 200 µl DNase I mixture (in 1.5 ml screw tube) into the correct well of T-Rack.
7. Run Code 639 program on MagCore® and select
   (1) YES/No for Select DNase treatment and
   (2) sample vol. 200/400
   (3) elution vol. 100/60/40.

Total RNA Protocol

Follow the steps below:

1. *Add total RNA (vol. up to 100µl) to the MagCore® Sample Tube.*
2. *Add RNase free water to total volume 100 µl to the RNA sample tube.*
3. *Put the prepared Sample Tube into the correct well of T-Rack.*
4. *Load the Tip Plus Holder Set (EDA) or Pipette Tip (Super, Plus, Plus II) into well 3 of the T-Rack.*
5. *Place the Elution Tube in the correct position: EDA in the EL/ER Slot; other models in the T-Rack position. (see page 5-18)*
6. *Run Code 639P program on MagCore® and select*
   (1) sample vol. 100
   (2) elution vol. 100/60/40.

EDA T-Rack Tube and Tip Position Configuration



W5	Empty
W4	Empty
W3	Tip Holder set
W2	1.5 ml Screw Tube (for DNase I Treatment)
W1	Sample Tube

MagCore® NGS Auto Size-Select purification Kit

For selective DNA purification and size selection for NGS.
Applicable models: Super, HF16 Plus, Plus II, EDA

Cartridge Code 701

Cat. No.MNC-01 // MNC-02

Kit Contents

Check that the following parts are included in addition to the main unit:

Cat. No.MNC-01 Contents:

Pre-filled Cartridge Reagent	*36 pcs.*
Pipet Tip plus Holder Set	*36sets.*
Sample Tube	*36 pcs.*
Elution Tube	*36 pcs.*

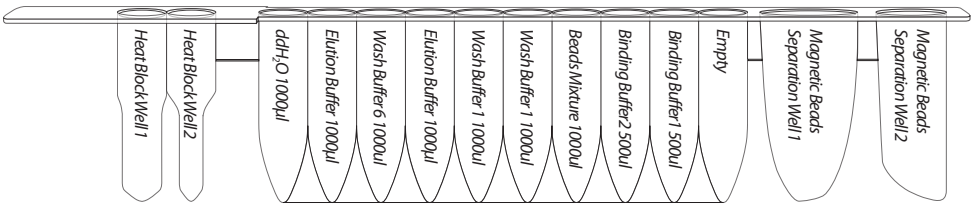
Cat. No. MNC-03 Contents:

Pre-filled Cartridge Reagent	*96pcs.*
Pipet Tip plus Holder Set	*96sets.*
Sample Tube	*96 pcs.*
Elution Tube	*96 pcs.*

Storage and Stability :

1. This kit should be stored at room temperature.
2. Shelf Life: 18 Months.
Note For long-term storage of DNA/RNA, eluate should be store at -20°C/-80°C is recommended.*

Cartridge Contents :



Description

MagCore® NGS Auto Size-Select purification Kit is designed for fast DNA fragment cleanup and size selection. The cleanup program results in 80% or higher recovery while removing all adapter dimers in sample that is then applicable during the preparation of Next Generation Sequencing (NGS) library. For DNA fragment size selection, the program selectively purifies nucleic acid fragments from 100-200 bp or from 200-500 bp in just minutes that is also suitable for library preparation. The entire purification procedure is fully automated and can be performed in 35 minutes.

Applications

The MagCore® NGS Auto Size-Select purification Kit is designed to purify DNA for various downstream applications, including DNA library preparation for NGS, and PCR product or real-time PCR product purifications.

Preparation Before Using

Prepare exactly 50ul PCR product ready for wither DNA Cleanup protocol or DNA Size Selection protocol.

***The PCR product volume is crucial for the purification performance, if the volume is not exactly 50ul, the result may differ with our claimed recovery or size range.**

***If the PCR product volume is less than 50ul, please add to 50ul with 1X PBS.**

DNA Cleanup

1. Pipette exactly 50ul of PCR product to the MagCore® Sample Tube.
2. Place 701 cartridges into Cartridge Rack.
3. Put the prepared Sample Tube into W1 of T-Rack.
4. Put Elution Tube into W5 of T-Rack, and put Tip Plus Holder Set into W2 of T-Rack.
5. Run Code 701A program at MagCore®.

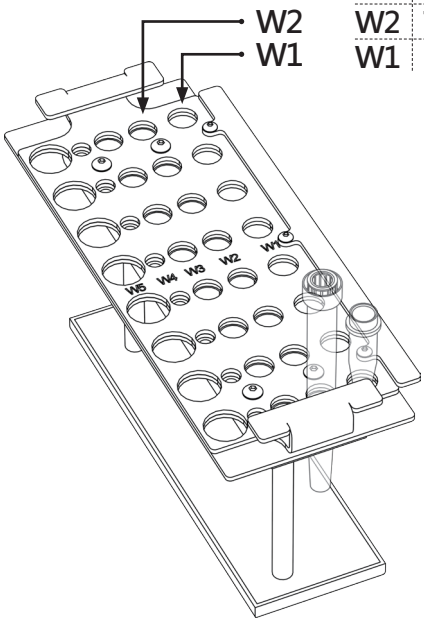
DNA Size Selection

1. Pipette exactly 50ul of PCR product to the MagCore® Sample Tube.
2. Place 701 cartridges into Cartridge Rack.
3. Put the prepared Sample Tube into W1 of T-Rack.
4. Put Elution Tube into W5 of T-Rack, and put Tip Plus Holder Set into W2 of T-Rack.
5. (1) Run Code **701B** program at MagCore® for **DNA Size Selection 200-500bp**, or
(2) run **701C** program at MagCore® for **DNA Size Selection 100-200bp**.

Selection Guide

Program	Description
701 A	DNA Cleanup
701 B	DNA Size Selection 200-500bp
701 C	DNA Size Selection 100-200bp

EDA T-Rack Tube and Tip Position Configuration



W5	Empty
W4	Empty
W3	Empty
W2	Tip Holder set
W1	Sample Tube

Results

➤ MagCore kit: 101, 102, 104, 106

➤ Sample type: whole blood

DNA Yield and Purity

DNA was isolated from normal human whole blood samples. Yields were determined by OD260 nm measurement. Purity was determined by OD260 nm/280 nm measurement. For exemplary results, see table below. Sample Material Volume/Amount DNA Yield [µg] OD260/280 ratio.

Sample	Anticoagulant	$A_{260/280}$	Yield(µg)
1	EDTA	1.87	9.93
2	Sodium Citrate	1.87	8.61
3	Lithium Heparin(4ml)	1.95	10.60
4	Sodium fluoride	1.91	11.32
5	Lithium Heparin(9ml)	1.95	10.13

Table 1. Performance of MagCore® Genomic DNA extraction on human whole blood samples treated with various anticoagulants.

The performance of DNA extraction from 400 µL human whole blood samples collected in EDTA, sodium citrate, sodium fluoride, and lithium heparin tubes was evaluated. The concentration and purity of the isolated genomic DNA were measured using a NanoDrop 1000 spectrophotometer.

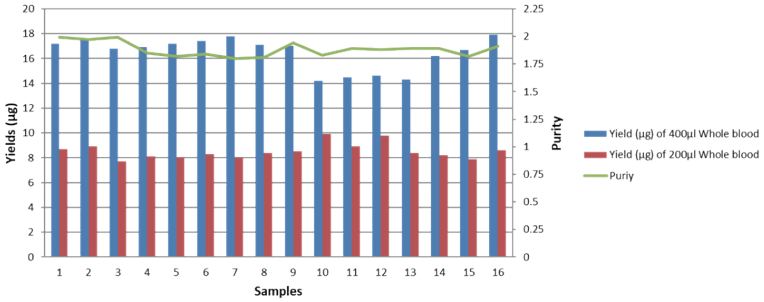


Figure 1. Consistency in yield and purity isolated from human whole blood of different sample volumes.

The quality of human whole blood DNA from 16 individuals was assessed using a NanoDrop 1000 spectrophotometer. The yield and purity of DNA isolated with MagCore® instruments were determined based on A260 values and A260/A280 ratios. On average, the amount of DNA obtained from 400 µL samples was approximately twice that of 200 µL samples, with comparable purity.

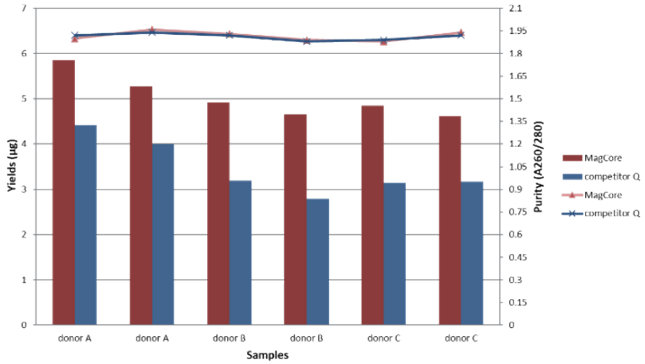


Figure 2. Human whole blood genomic DNA purified by MagCore® automated extraction system and competitor Q DNA extraction product.

DNA was isolated from 200 µL of human whole blood from three donors, each in duplicate. The purity and yield of the extracted DNA were assessed using a NanoDrop 1000 spectrophotometer. Overall, the results showed that DNA extracted with MagCore® instruments exhibited comparable purity to that obtained with the competitor's Q product, but with higher yields.

DNA

All samples showed genomic DNA bands with a size of at least 20kb.

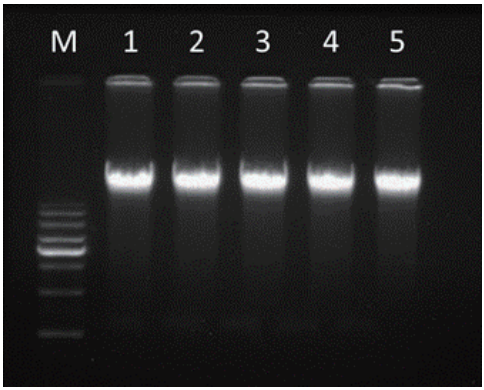


Figure 3. Analysis of Genomic DNA extracted from human whole blood samples using gel electrophoresis.

Performance of MagCore® automated extraction analyzed on agarose gel electrophoresis; Lane M: RBC 1 kb DNA ladder Marker; Lane 1-5: Genomic DNA from human whole blood samples collected in tubes containing EDTA, sodium citrate, lithium heparin (4ml), sodium fluoride, and lithium heparin (9ml).

Scalability

Human whole blood samples of 20, 50, 80, 100, 150, and 200µl from a single donor were diluted to 200µl using PBS buffer. The amount of DNA was calculated using A260 results. No significant difference was observed in the DNA yield from eluates of 100µl and 200µl.

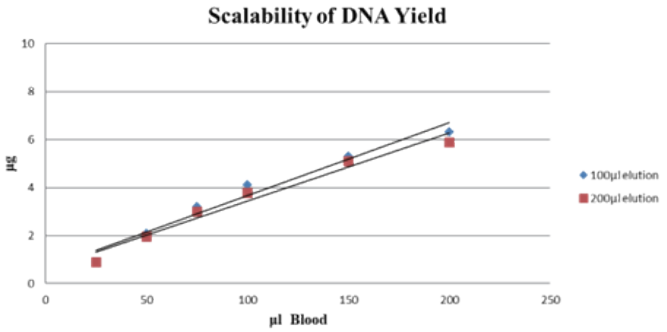


Figure 4. Linear relationship between DNA yield and different sample dilutions.

No signs of PCR inhibition were observed. Due to the nature of the PCR, there is a linearity of crossing points versus the logarithm of template amount.

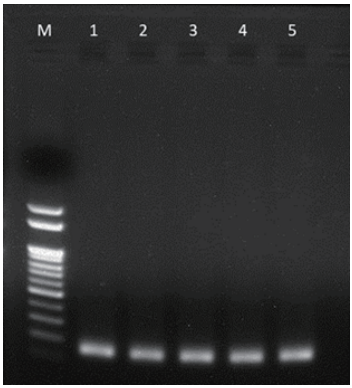


Figure 5. Gel electrophoresis of target gene CypA (126bp) followed by PCR is to check if an inhibition effect is induced by different anticoagulants.

Lane 1-5: PCR product of gene CypA from human whole blood samples collected in tubes containing EDTA, sodium citrate, lithium heparin (4ml), sodium fluoride, and lithium heparin (9ml). Lane M: RBC 1 kb DNA ladder Marker.

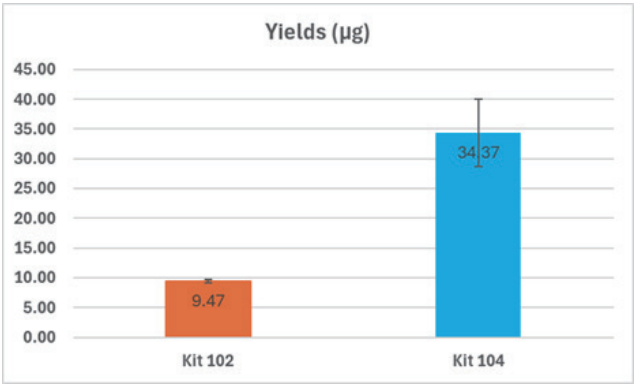


Figure 6. Comparison of gDNA yields obtained with Kit 102 and KIt 104.

Extraction using KIt 102 yielded an average of 9.47 µg DNA, whereas Kit 104 yielded significantly higher amounts, averaging 34.37 µg. Error bars represent standard deviation.

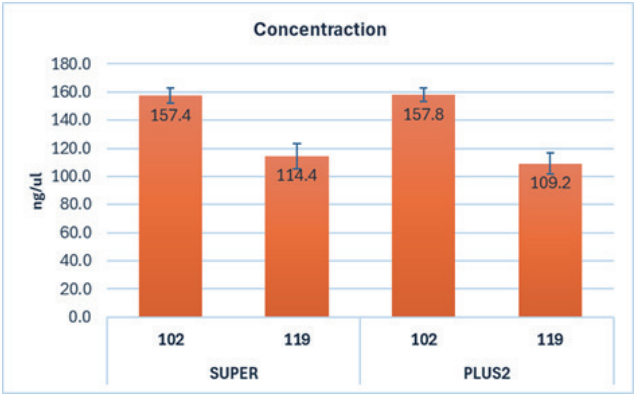


Figure 7. DNA concentrations obtained using protocols 102 and 119 on two instruments, MagCore® SUPER and MagCore® Plus II.

Protocol 102 yielded higher concentrations (157.4 ng/µL on SUPER and 157.8 ng/µL on Plus II) compared with protocol 119 (114.4 ng/µL on SUPER and 109.2 ng/µL on Plus II). Error bars represent standard deviation.

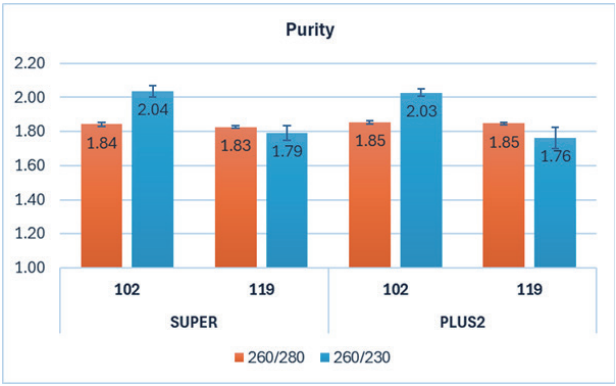


Figure 8.

DNA purity ratios (A260/280 and A260/230) obtained using protocols 102 and 119 on MagCore® SUPER and MagCore® Plus II instruments. Protocol 102 showed A260/280 ratios of 1.84 (SUPER) and 1.85 (Plus II), with A260/230 ratios of 2.04 (SUPER) and 2.03 (Plus II). Protocol 119 produced slightly lower A260/280 ratios (1.83 on SUPER and 1.85 on Plus II) and lower A260/230 ratios (1.79 on SUPER and 1.76 on Plus II). Error bars represent standard deviation.

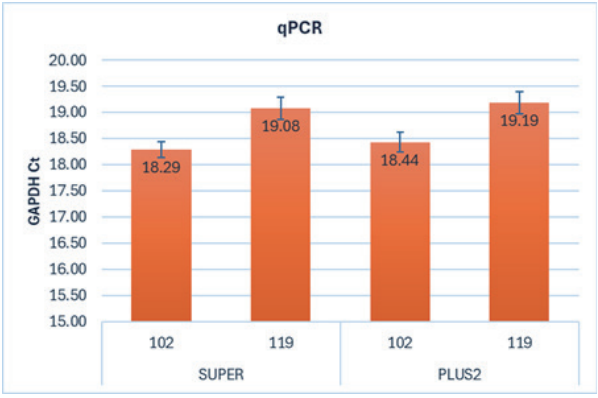


Figure 9.

qPCR analysis of GAPDH from DNA extracted using protocols 102 and 119 on MagCore® SUPER and MagCore® Plus II instruments. Protocol 102 yielded lower Ct values (18.29 on SUPER, 18.44 on Plus II) compared with protocol 119 (19.08 on SUPER, 19.19 on Plus II). Error bars represent standard deviation.

➤ MagCore kit: 110

➤ Sample type: cultured cells, cell-free body fluids

DNA Yield and Purity

Sample	ID	Conc.(ng/µl)	$A_{260/280}$	Yield(µg)
1	GPT2967P	22.68	1.84	1.36
2	GPT2952P	33.98	1.92	2.04
3	NP679P	33.65	1.80	2.02
4	NP777P	39.22	1.86	2.35
5	NP795P	22.05	1.79	1.32

Table 1. Results of cell DNA extraction from amniotic fluid by Nanodrop n-1000.

Cells were harvested from 10-15ml amniotic fluid from healthy females pregnant for 16-18 weeks. Purified by MagCore® instruments, the DNA yield varied between individuals due to different body conditions. However, the purity (A260/A280) were consistent in the range of 1.8 ±0.1.

Cell Number	Cell Type	Sample	DNA Concentration (ng/µl)	$A_{260/280}$	$A_{260/230}$
$2x10^6$	PC12	1	70.04	2.07	2.15
	A549	2	41.35	2.06	2.17
	HeLa	3	186.14	2.01	2.06
	MG63	4	71.96	2.05	2.09

Table 2. High yields and quality of results shown in various cells DNA extraction using MagCore® cultured cells DNA kit .human whole blood samples using gel electrophoresis.

Various cells (2x106) were subjected to DNA extraction and DNA product was eluted in 60µl. The yield and purity from samples of 200µl cultured cell suspensions were measured by Nanodrop n-1000.

DNA Integrity

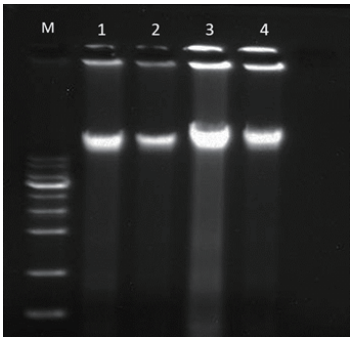


Figure 1. Analysis of Genomic DNA extracted from various cell samples using gel electrophoresis.

Performance of MagCore® automated extraction analyzed on agarose gel electrophoresis; Lane 1: PC12 cells; Lane 2: A549 cells ; Lane 3: HeLa cells; Lane 4: MG63 cells and Lane M: RBC 1kb ladder marker.

Scalability

Cell Number	Sample	DNA Concentration (ng/µl)	$A_{260/280}$
$4x10^6$	1	126.26	1.98
	2	132.73	1.99
$2x10^6$	3	55.38	2.02
	4	51.47	1.98
$1x10^6$	5	23.71	2.08
	6	25.01	1.94
$5x10^5$	7	10.49	1.92
	8	10.00	2.25

Table 3. Consistency in yield and reproducibility of results shown in HeLa cell DNA extraction using MagCore® systems.

HeLa cell cultures in 2-fold serial dilutions were subjected to DNA extraction. All samples were treated with RNase A to remove RNA contaminants. Duplicates of samples with different amounts of cells were analyzed: 4 x 106 cells, 2 x 106 cells, 1 x 106 cells, and 5 x 105 cells. The yield and purity from samples of 200µl cultured cell suspensions were measured by Nanodrop n-1000.

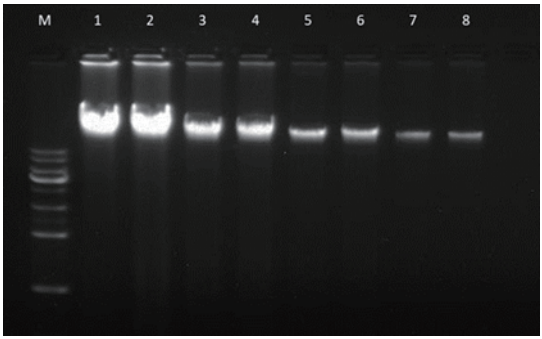


Figure 2. Analysis of Genomic DNA extracted from Hela cell samples using gel electrophoresis.

Performance of MagCore® automated extraction analyzed on agarose gel electrophoresis; Lane 1/2: 4 x 106 Hela cells, Lane 3/4: 2 x 106 Hela cells; Lane 5/6: 1 x 106 cells; Lane 7/8: 5 x 105 cells and Lane M: RBC 1kb ladder marker.

➤ MagCore kit: 105,115
➤ Sample type: plasma

DNA Yield and Purity

Sample ID	Kits code	Sample type	Plasma (ml)	Oubit (ng/µl)	Ct value (GAPDH gene)	Bioanalyzer (pg/µl)	35 bp marker Conc.(pg/µl)	10380 bp marker Conc. (pg/µl)
1	105	Human plasma	1.2	0.061	23.86	24.7	125	75
2	105	Human plasma	1.2	0.058	23.96	22.98	125	75
3	115	Human plasma	4	0.203	20.04	117	125	75
4	115	Human plasma	4	0.194	20.26	104.7	125	75

Table1. Comparison of free DNA from 1.2 ml and 4 ml plasma.

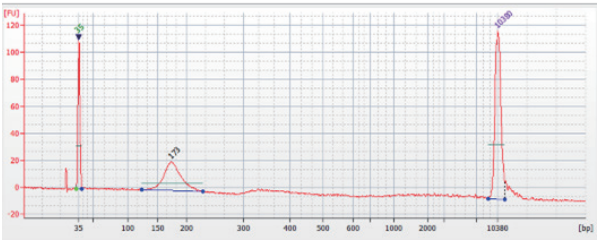
Quality and quantity analysis of the free DNA by Agilent Bioanalyzer 2100. Superior quality DNA are available from plasma samples by using MagCore products.

Sample ID	Sample type	Plasma (ml)	Oubit (ng/µl)	Ct value (GAPDH gene)	Bioanalyzer (pg/µl)	35 bp marker Conc.(pg/µl)	10380 bp marker Conc. (pg/µl)
1	Human plasma	4	0.262	18.52	127.21	125	75
2	Human plasma	4	0.250	18.59	124.62	125	75
3	Human plasma	4	0.220	18.78	111.11	125	75
4	Human plasma	4	0.290	18.45	153.24	125	75
5	Human plasma	4	0.278	18.49	130.97	125	75

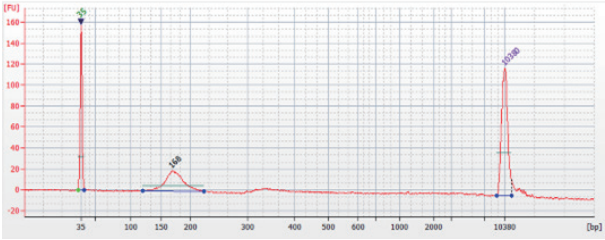
Table 2. High stability of free DNA.

Quality and quantity analysis of the free DNA by Agilent 2100 Bioanalyzer. It is shown by the evidence that free DNA of high quality and stability is possible to extract from 5 different healthy people plasma samples by using MagCore products.

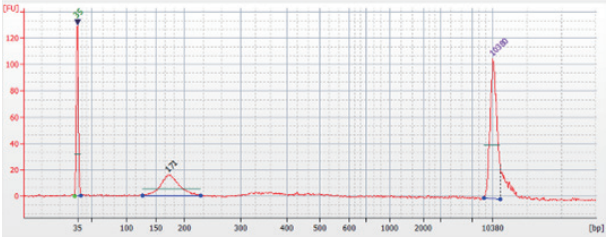
Sample 1



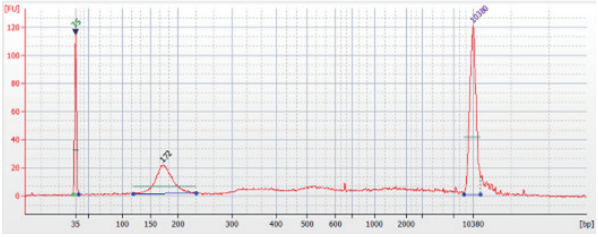
Sample 2



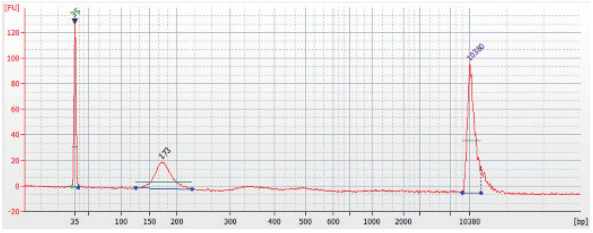
Sample 3



Sample 4



Sample 5



➤ MagCore kit: 201,202,203,211,220
➤ Sample type: serum

Viral Nucleic Acid Extraction Performance Analysis

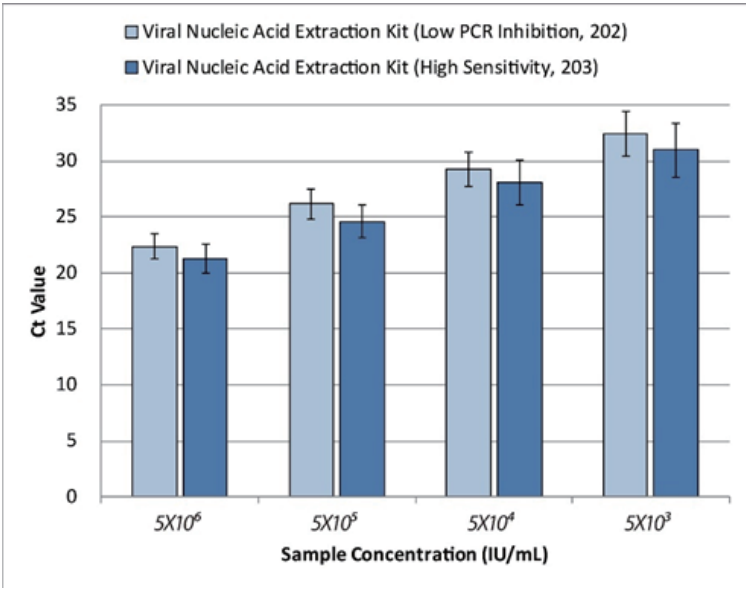


Figure 1.

MagCore®203 shows better performance on real-time PCR with approximately 1~2 Ct Value less. (n≥3)

Comparison of real-time PCR results of nucleic acid extraction by MagCore®, Brand Q and Brand R

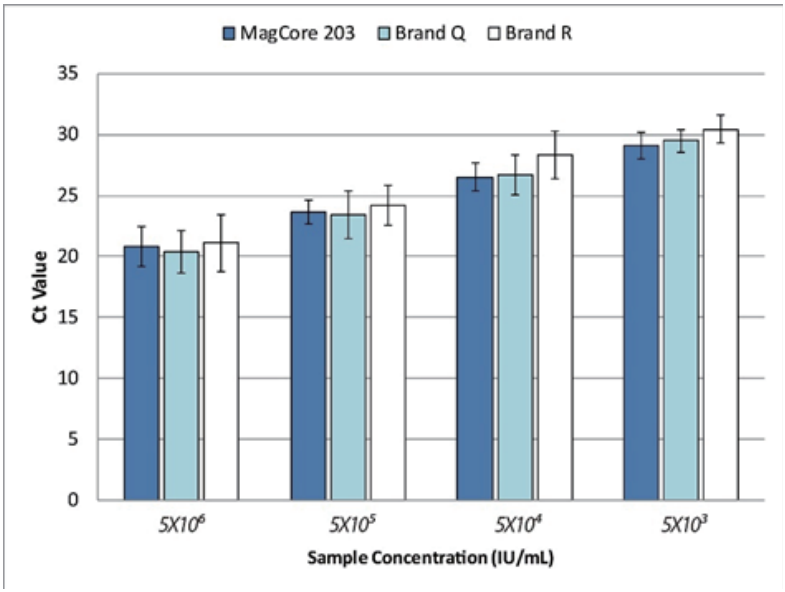


Figure 2.

Purified viral nucleic acid by MagCore® is ideal for the downstream real-time PCR. Viral samples processed by MagCore®

Sample	HBV Serums (IU/mL)	Ct (203)	Ct (219)	ΔCt (203 vs. 219)
1	5×10^{6}	18.62	19.85	1.23
2	5×10^{5}	22.58	24.04	1.46
3	5×10^{4}	25.58	27.07	1.49
4	5×10^{3}	28.76	30.65	1.89
5	5×10^{2}	31.93	33.56	1.63
6	5×10^{1}	36.92	37.72	0.80

Table 1.

Ct values of HBV serum samples extracted using the MagCore® 203 kit with protocol codes 203 and 219 (Fast). Code 219 gave slightly higher Ct values than code 203 (ΔCt = 0.8–1.9).

HBV Serums (pfu/μl)	Brand	Sample	Ct value
$5x10^6$	MagCore	1	25.39
	Competitor Q	Q1	25.5
$5x10^5$	MagCore	2	28.65
	Competitor Q	Q2	28.4
$5x10^4$	MagCore	3	31.84
	Competitor Q	Q3	31.55
$5x10^3$	MagCore	4	34.51
	Competitor Q	Q4	34.21
-	-	NTC	-

Table 2. HBV nucleic acid purified by MagCore® automated extraction system and competitor Q viral nucleic acid extraction product.

HBV samples of 200μl from the same donors in serial 10-fold dilutions were used for viral DNA isolation. Ct Values were obtained from Real-Time PCR results. No significant difference was observed in the Ct values between results from MagCore® and competitor Q products. Non template control (NTC) was included as a reference.

Sample	HBV Serums (IU/mL)	Ct (203)	Ct (220)	ΔCt (203 vs. 220)
1	5×10^6	16.10	14.04	2.06
2	5×10^5	19.64	17.76	1.88
3	5×10^4	23.59	21.23	2.36
4	5×10^3	26.62	24.83	1.79
5	5×10^2	29.67	27.79	1.88
6	5×10^1	33.08	31.42	1.66

Table 3.

Ct values of HBV serum samples (5×10^6–5×10^1 IU/mL) extracted using MagCore® Kit 203 (0.4 mL input) and Kit 220 (2.4 mL input). Kit 220 consistently yielded lower Ct values compared with Kit 203, with ΔCt values ranging from 1.66 to 2.36.

➤ MagCore kit: 301
➤ Sample type: plant tissue

DNA Yield and Purity

Sample ID	Position	Yield (ng/µl)
Citrus nobilisLour	Leaf	36.5
Carica papaya	Leaf	49.2
Lycoperiscon esculentum	Leaf	71.9
Ctrullus lanatus	Leaf	23.4
Anisogonium esculentum	Leaf	240.3
Trachycarpus fortunei	Leaf	154.7
Mentha piperita	Leaf	54.6
Anthoceros punctatus	Leaf	38.9
Calix babylonica	Leaf	80.7
Prunus campanulata	Leaf	35.7
Lxeris chinensis	Leaf	161.4
Capsicum annuum	Leaf	13.9
Vigna radiata	Seed	7.0
Medicago sativa	Leaf	21.0
Vigna angularis	Seed	5.8
Agaricus bisporus	Whole	14.3

➤ MagCore kit: 401
➤ Sample type: animal tissue

DNA Yield and Purity

Mice Tissue	Yield (ng/µl)
Liver	17.5
Spleen	17.5
Brain	10
Lung	12.5
Kidney	32.5
Tail	7.5

Table 1.

Genomic DNA was purified from 10mg of mice tissue samples and 0.25cm tail.

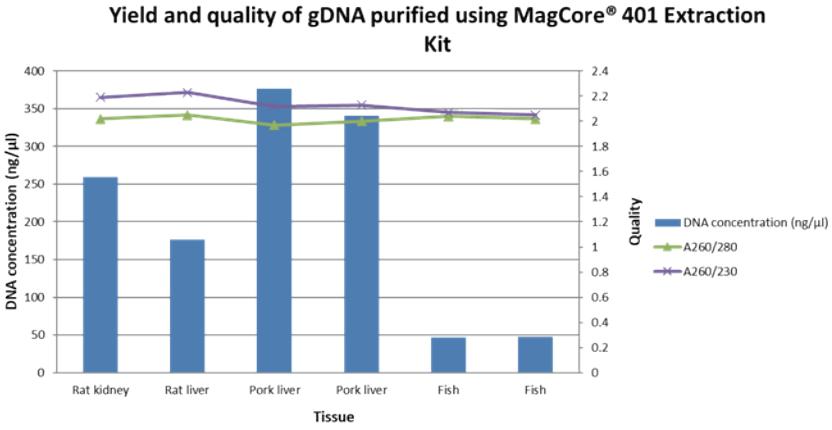


Figure 1. Genomic DNA from 10mg of various animal tissues were extracted by the MagCore®401 Genomic DNA Tissue Kit.

DNA was eluted in 60 µL and quantitated using Nanodrop n-1000.

DNA Integrity

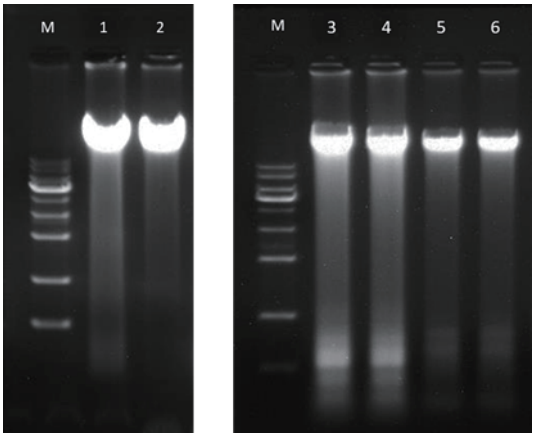


Figure 2. Agarose gel electrophoresis of the various animal tissue DNA was isolated from MagCore® automated extraction.

Lane M: RBC 1 kb DNA ladder Marker; Lane 1: Rat kidney; Lane 2: Rat liver; Lane 3-4: Pork liver; Lane 5-6: Fish tissue.

➤ MagCore kit: 405
➤ Sample type: FFPE tissue

DNA Yield and Purity

2-hour heating		
Samplet	Size (cm^2)	Ct Value
1	1*1	31.2
2	0.8*0.8	31.8
3	0.5*1	25.1
4	1.5*2	25.0
5	1.5*2	27.8
6	1.5*2	28.6
7	0.5*0.5	32.3
8	0.5*1	27.9
9	1*1	32.1

16-hour heating		
Samplet	Size (cm^2)	Ct Value
11	2*3	25.1
12	2*2	26.0
13	2*2	25.5
14	2*3	27.0
15	2*2	25.0
16	2*3	29.1
17	1.5*1	25.0
18	0.5*0.5	34.0
19	0.5*1	26.1
20	1*1	31.2

Table 1. Tissue sample sizes.

It is shown that different sizes of tissue samples were processed by a 2-hour heating or 16-hour heating program.

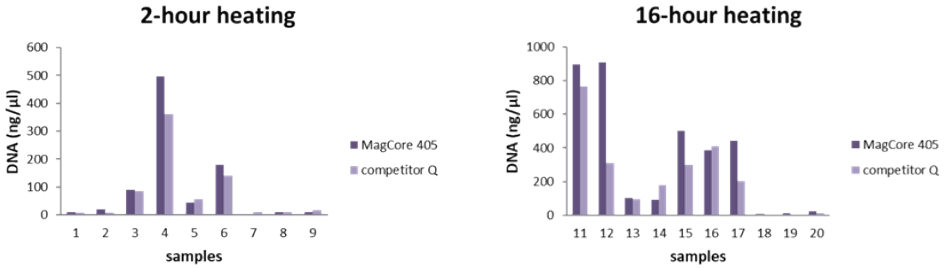


Figure 1. Comparison of FFPE tissue DNA extraction efficiency between MagCore® 405 and competitor Q.

Whether samples were treated with either a 2-hour or 16-hour heating, yields of DNA extracted by MagCore® are mostly higher than yields of DNA extracted by the competitor.

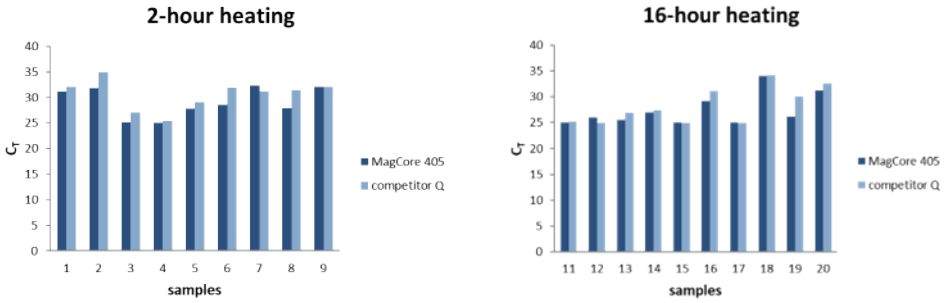


Figure 2. Purified DNA ideal for the downstream real-time PCR.

Whether samples experience a 2-hour or 16-hour heating, the Ct values of samples processed by MagCore® are mostly lower than the Ct values of the samples processed by the competitor.

➤ MagCore kit: 406
➤ Sample type: forensic sample

DNA Yield and Purity

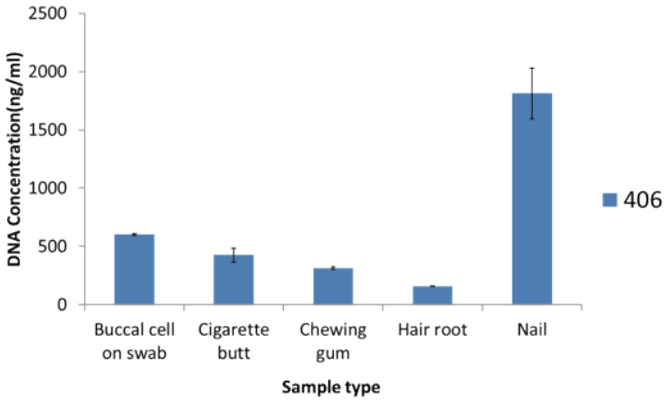


Figure 1. Results of direct DNA extraction from various sample sources.

Samples of specified sizes: Buccal cell on swab, Cigarette butt, Chewing gum, Hair root, Nail were applied to MagCore® automated extraction. The yield of DNA was investigated using Qubit™ dsDNA HS Assay Kit.

Scalability

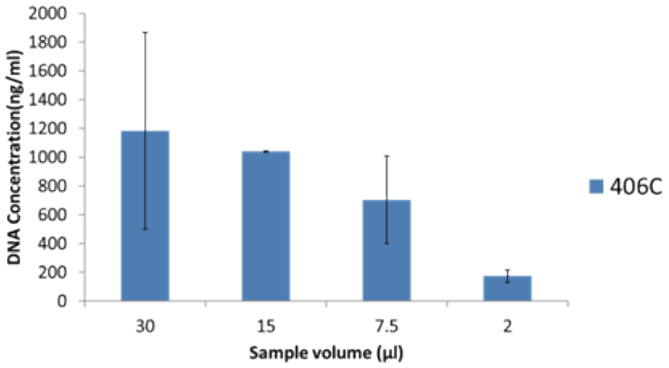


Figure 2. Results of direct DNA extraction from dried blood samples.

Guthrie card spotted with 30, 15, 7.5, and 2 µl of dried blood from an healthy individual were applied to MagCore® automated extraction program 406C. The yield of DNA was investigated using Qubit™ dsDNA HS Assay Kit.

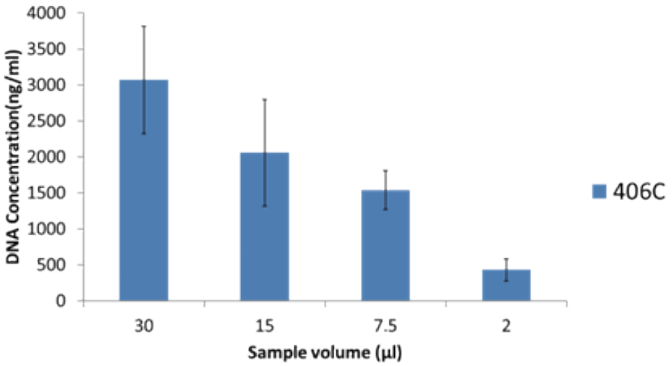


Figure 3. Results of direct DNA extraction from dried blood samples.

Fabric spotted with 30, 15, 7.5, and 2 µl of dried blood from an healthy individual were applied to MagCore® automated extraction program 406C. The yield of DNA was investigated using Qubit™ dsDNA HS Assay Kit.

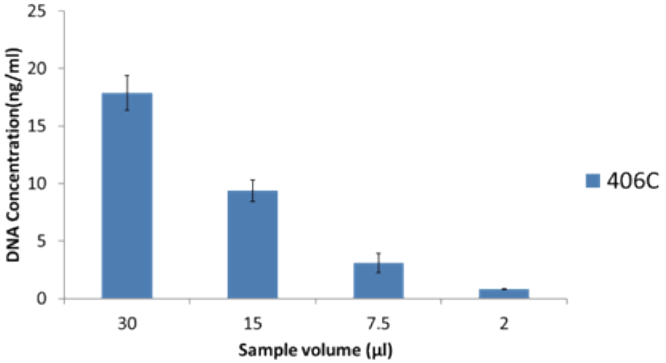


Figure 4. Results of direct DNA extraction from seminal stain samples.

Fabric spotted with 30, 15, 7.5, and 2 µl of semen from an healthy individual were applied to MagCore® automated extraction program 406C. The yield of DNA was investigated using Qubit™ dsDNA HS Assay Kit.

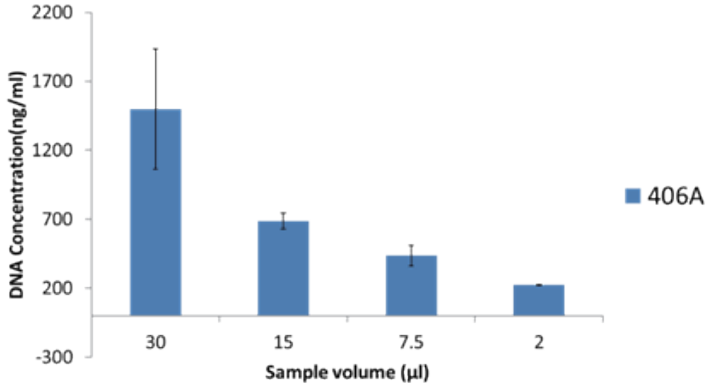


Figure 5. Results of direct DNA extraction from dried saliva samples.

Guthrie card spotted with 30, 15, 7.5, and 2 µl of dried saliva were applied to MagCore® automated extraction program 406A. The yield of DNA was investigated using Qubit™ dsDNA HS Assay Kit.

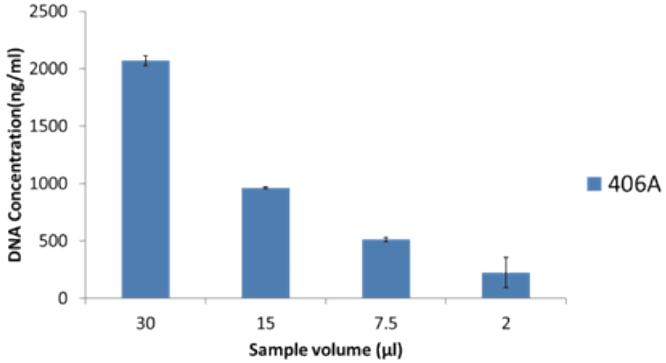


Figure 6. Results of direct DNA extraction from dried saliva samples.

Fabric spotted with 30, 15, 7.5, and 2 µl of dried saliva were applied to MagCore® automated extraction program 406A.

➤ MagCore kit: 502
➤ Sample type: bacteria

DNA Yield and Purity

Sample	1	2	3	4	5
0.D. 600 value	0.352	0.188	0.103	0.057	0.030
cell number (cells/ml)	$2.82*10^8$	$1.5*10^8$	$8.24*10^7$	$4.56*10^7$	$2.4*10^7$
DNA Yield (ng/ul)	74.34	39.27	20.12	9.03	3.94
DNA Purity (A_{260}/A_{280})	1.82	1.84	2.1	1.9	1.8
(A_{260}/A_{230})	1.79	1.9	1.83	1.33	0.87

Table 1. Analysis of isolated DNA from Gram-negative bacteria E. coli DH5a purified by MagCore® automated extraction systems.

Population density in cell suspension was determined by OD600 while DNA yield and purity by A260/A280 values. Sample 1-5: Bacterial DNA extracted from 2-fold serial dilutions of E.coli DH5a cell suspension.

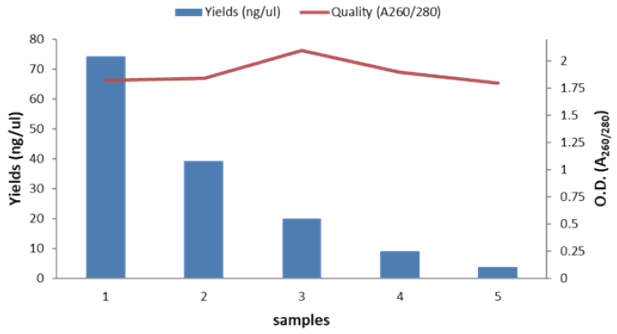


Figure 1. Analysis of isolated DNA from Gram-negative bacteria E. coli DH5a purified by MagCore® automated extraction systems.

Consistency in yield and purity, and reproducibility of extractions were studied using A260/ A280 results obtained from Nanodrop n-1000. Overall, the yield of DNA followed a 2-fold pattern while purity of DNA (A260/ A280)fell between 1.8-2.1. Sample 1-5: Bacterial DNA extracted from 2-fold serial dilutions of E.coli DH5a cell suspension.

DNA Integrity

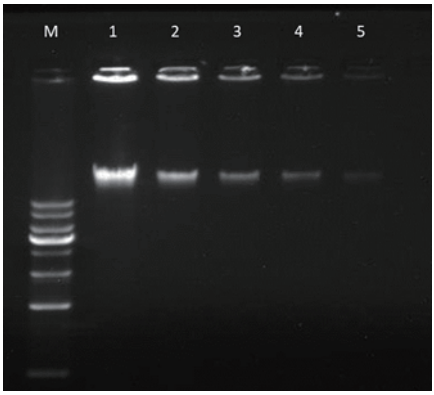


Figure 2. Analysis of isolated DNA from Gram-negative bacteria E. coli DH5α purified by MagCore® automated extraction systems.

Consistency in yield and reproducibility of bacteria genomic DNA extraction were investigated with serial dilutions by agarose gel electrophoresis.

Lane M: RBC 1 kb DNA ladder Marker; Lane 1-5: Bacterial DNA extracted from 2-fold serial dilutions of E.coli DH5α cell suspension.

Sample	Ct	Target
A	30.7	H.pylorI
A	30.52	H.pylorI
A	30.59	H.pylorI
B	26.73	H.pylorI
B	26.28	H.pylorI
B	26.4	H.pylorI
Negative Ctrl	No Ct	x

Table 2. Real-time PCR analysis of bacterial DNA purified from Helicobacter pylori.

Bacterial DNA from Helicobacter pylori was purified by MagCore® automated extraction systems and applied to downstream real-time PCR. Results had shown that the Ct values are highly consistent and reproducible in triplicates of the same sample.

➤ MagCore kit: 504
➤ Sample type: stool

DNA Yield and Purity

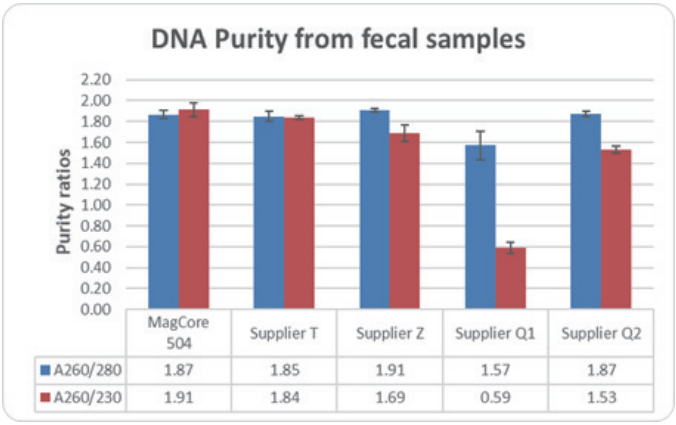
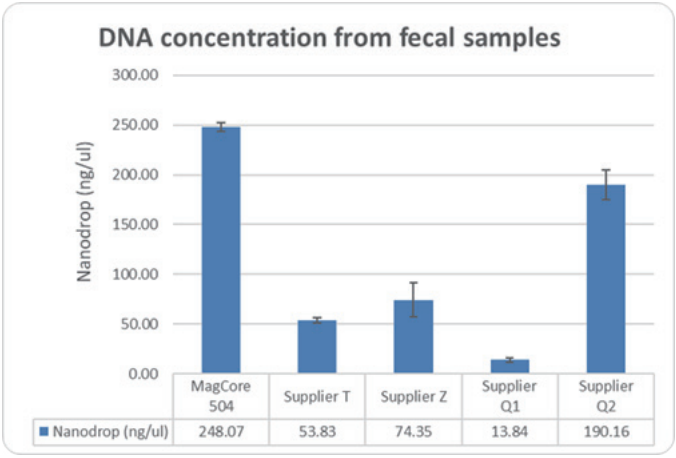


Figure 1. DNA was isolated from 0.2 g stool samples (in triplicates) with the MagCore Gut Microbiome DNA kit and supplier kits. (supplier T, supplier Z, supplier Q1, supplier Q2).

DNA concentration and purity (A260/280, A260/230) are measured by Nanodrop spectrophotometer.



DNA Integrity

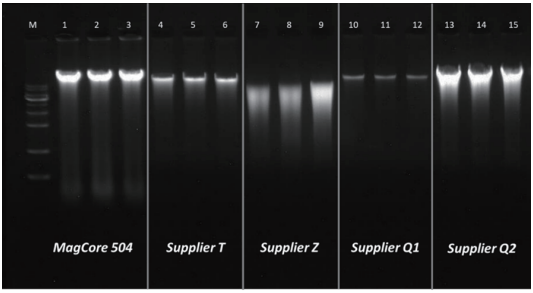
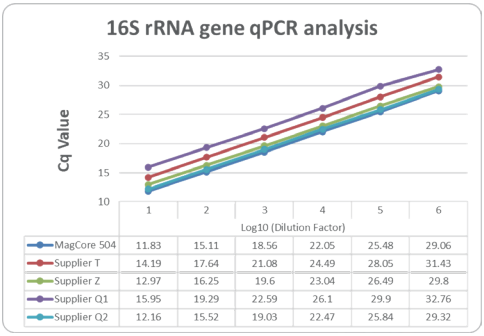


Figure2. Analysis of Genomic DNA extracted from human stool samples using 1% gel electrophoresis.

Performance of MagCore Gut Microbiome kit analyzed on agarose gel electrophoresis; Lane M: RBC 1 kb DNA ladder Marker.

Scalability



	1	2	3	4	5	6
MagCore 504	11.83	15.11	18.56	22.05	25.48	29.06
Supplier T	14.19	17.64	21.08	24.49	28.05	31.43
Supplier Z	12.97	16.25	19.6	23.04	26.49	29.8
Supplier Q1	15.95	19.29	22.59	26.1	29.9	32.76
Supplier Q2	12.16	15.52	19.03	22.47	25.84	29.32

<Supplier Q2/ MagCore 504 / Supplier Z>

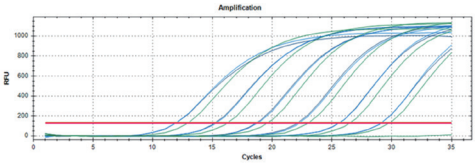


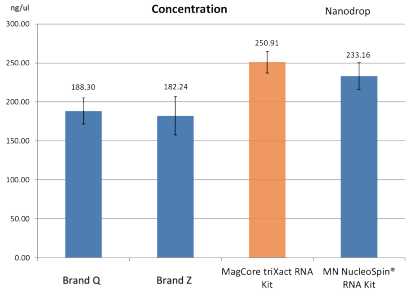
Figure3. DNA extracted from stool samples using MagCore 504 kit and other competitor kits were evaluated by 10-fold serial dilution of 16S rRNA gene qPCR amplification.

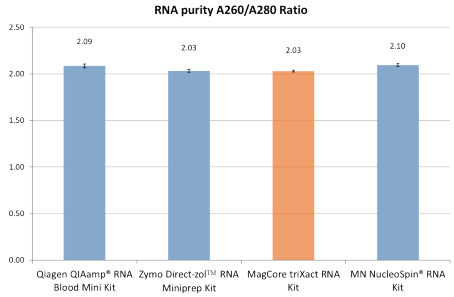
Non template control (NTC) was included as a reference. (amplicon size: 466bp)

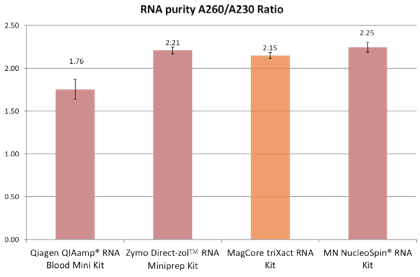
➤ MagCore kit: 601,610,631
➤ Sample type: cultured cell,whole blood, tissue

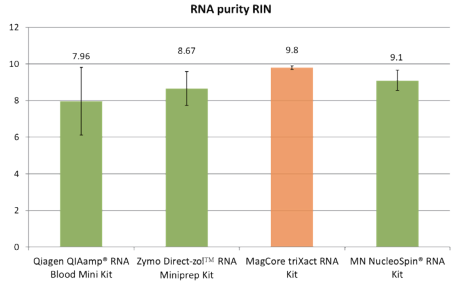
DNA Yield and Purity
Sample: 1x106 HeLa cell extract

No.	Kit	Nanodrop (ng/ul)	A260/A280	A260/A230
1	Brand Q	207.15	2.08	1.86
2		182.85	2.07	1.78
3		174.9	2.11	1.63
4	Brand Z	171.52	2.03	2.24
5		210.45	2.02	2.22
6		164.76	2.05	2.17
7	MagCore triXact RNA Kit	264.69	2.04	2.11
8		250.61	2.02	2.17
9		237.44	2.03	2.17
10	Brand M	224.35	2.11	2.26
11		252.69	2.1	2.3
12		222.45	2.08	2.18





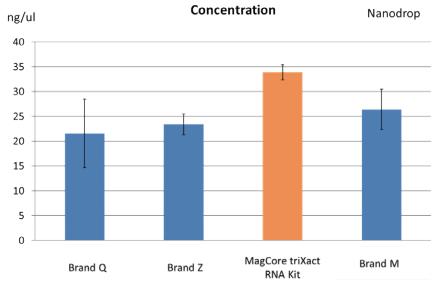




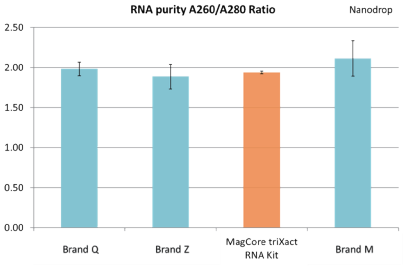
Sample: 400µl Human Whole Blood

No.	Kit	Nanodrop (ng/ul)	A260/A280	A260/A230
1	Brand Q	28.77	1.99	1.69
2		20.88	2.06	0.31
3		15.02	1.89	0.85
4	Brand Z	21.36	1.97	1.82
5		23.32	1.98	1.48
6		25.5	1.71	1.26
7	MagCore triXact RNA Kit	32.29	1.94	1.18
8		35.33	1.92	2.02
9		34.02	1.95	2.06
10	Brand M	27.03	1.91	0.73
11		22.09	2.35	1.23
12		30.13	2.08	0.37

Sample: 400µl Human Whole Blood

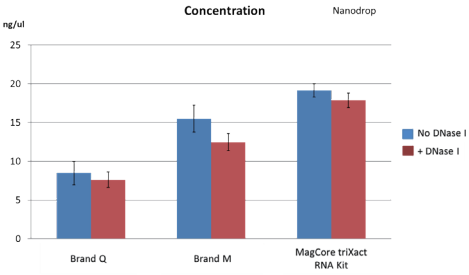


Sample: 400µl Human Whole Blood

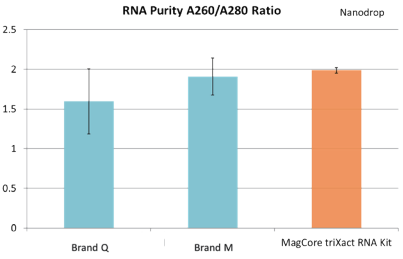


Sample: 30mg Fish tissue

Sample: 30 mg Fish Tissue

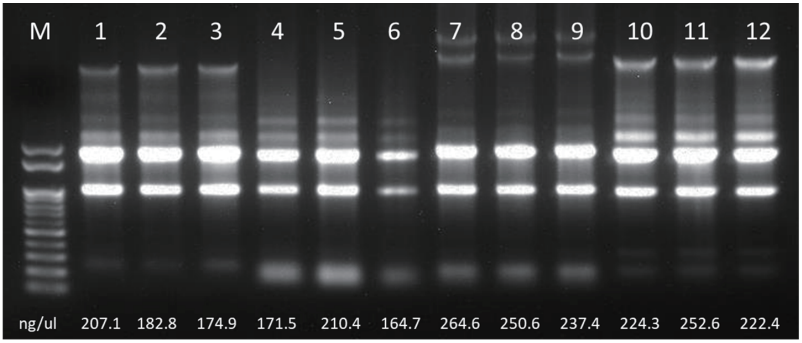


Sample: 30 mg Fish Tissue

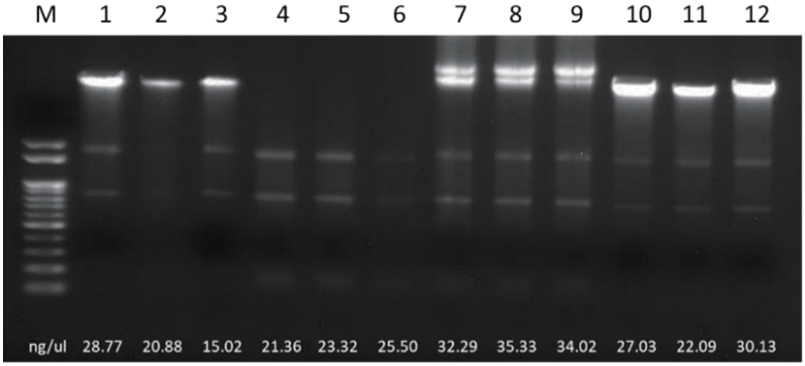


DNA Integrity

Sample: 1x106 HeLa cell extract



Sample: 30mg Fish tissue



➤ MagCore kit: 605
➤ Sample type: FFPE

DNA Yield and Purity

Brand	Sample	Nanodrop ng/ul	A260/A280	A260/A230	Ct Value (GAPDH)
MagCore 605	1	60.12	1.93	1.48	24.01
	2	74.79	1.89	1.52	22.02
Supplier Z (ZYMO Quick-RNA FFPE Kit)	3	31.21	1.96	1.49	26.61
Supplier Q (QIAgen RNeasy FFPE Kit)	4	117.54	1.93	2.17	23.75
Supplier T (RecoverAll TM Total Nucleic Acid Isolation Kit for FFPE)	5	5.89	1.46	0.15	27.39

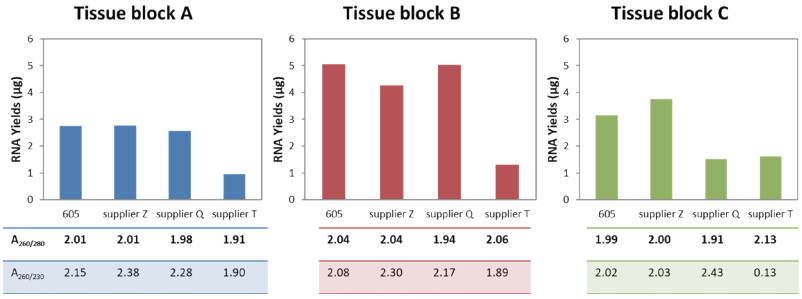


Figure 1. MagCore 605 retains high RNA extraction efficiency in various rat liver tissue blocks compare to several FFPE RNA purification kit suppliers.

The RNA yield and quality was quantified by Nanodrop n-1000.

DNA Integrity

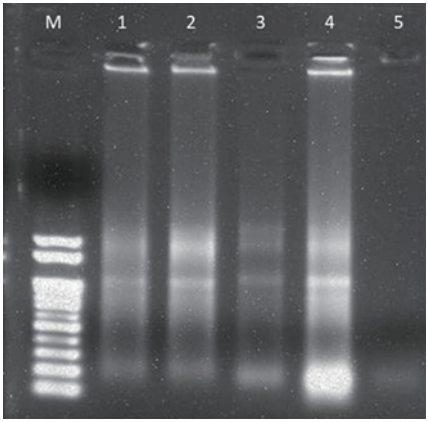
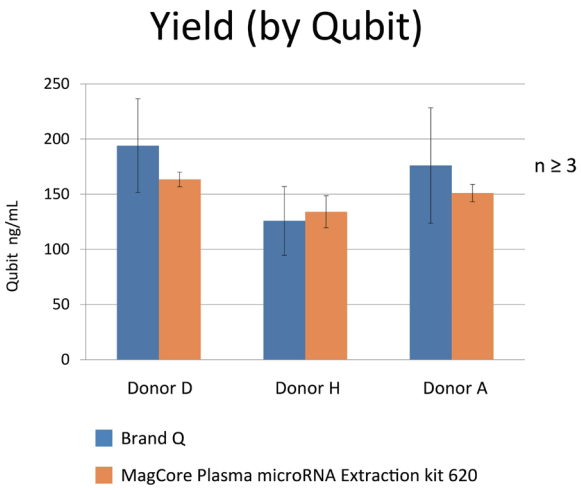


Figure2. Comparison of total RNA extraction efficiency by using various FFPE RNA extraction kit suppliers.

Total RNA was purified from one rat liver 50μm tissue section of a single FFPE tissue block for each sample. The RNA yield and quality was quantified by Nanodrop n -1000.

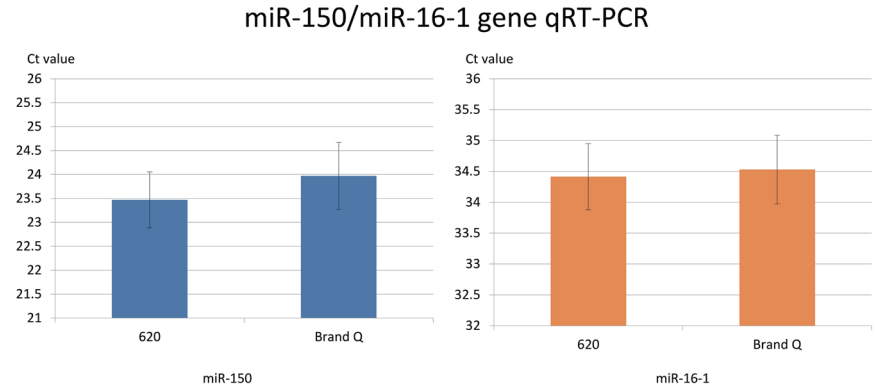
➤ MagCore kit: 620
➤ Sample type: Plasma, Serum, Cell-free body fluids

High recovery of miRNA



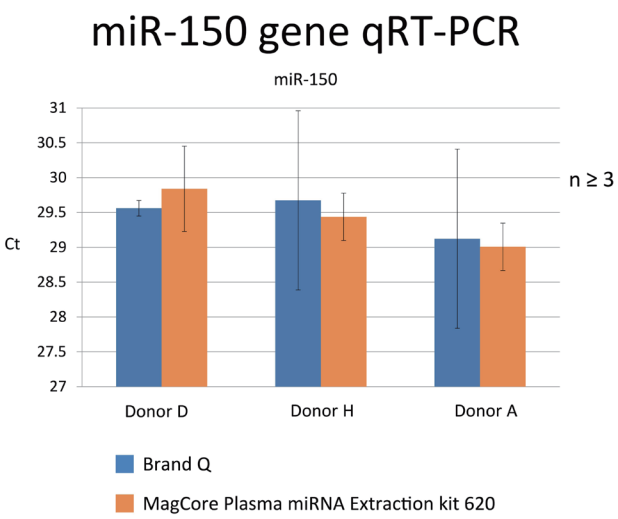
miRNA was isolated from 400 µl plasma from 3 different donors using MagCore Plasma miRNA Extraction kit (620) or Brand Q kit. The concentration was detected by Qubit microRNA Assay Kit.

Detection of miRNAs



miRNA was isolated from 400 µl plasma MagCore Plasma miRNA Extraction kit (620) or Brand Q kit. miR-150 and miR-16-1 was detected by Real-Time PCR.

High recovery of miRNA

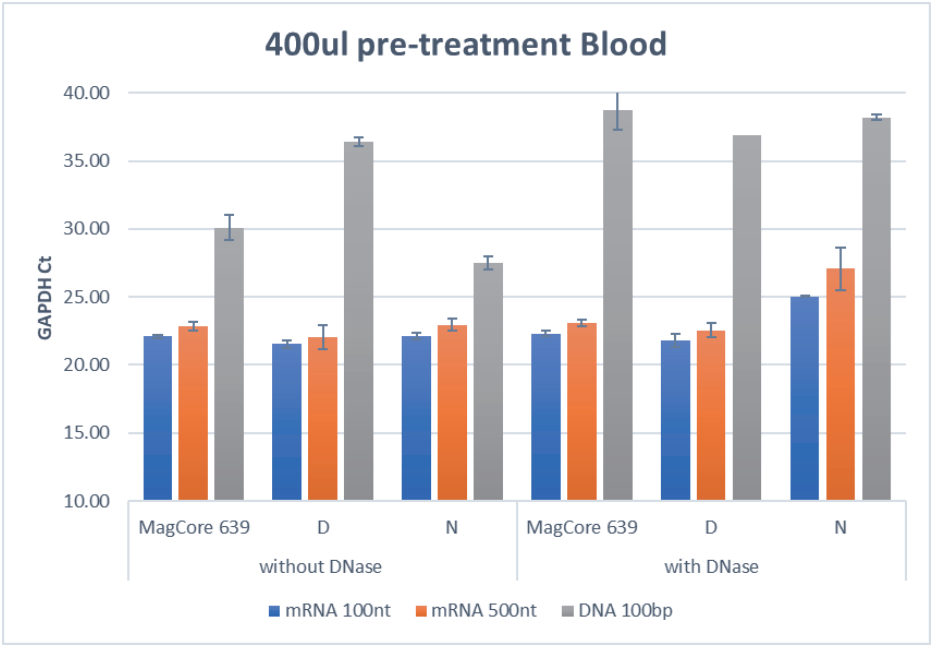


miRNA was isolated from 400 µl plasma from 3 different donors using MagCore Plasma miRNA Extraction kit (620) or Brand Q kit. miR-150 was detected by Real-Time PCR.

➤ MagCore kit: 639
➤ Sample type: whole blood, culture cell, total RNA

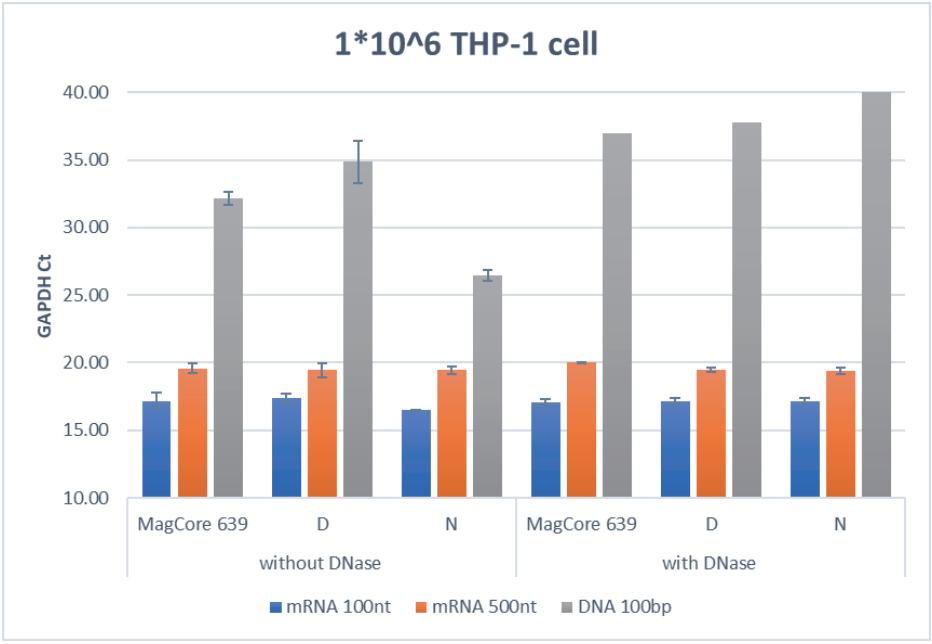
Blood mRNA extraction efficiency of MagCore 639 and other suppliers

	Kit	400ul pre-treatment Blood						Elution buffer
		without DNase			with DNase			
		Magcore 639	D	N	Magcore 639	D	N	
mRNA 100nt	Average	22.10	21.53	22.12	22.32	21.83	25.05	N/A
	SD	0.14	0.26	0.26	0.21	0.48	0.08	
	CV	0.6%	1.2%	1.2%	0.9%	2.2%	0.3%	
mRNA 500nt	Average	22.86	22.05	22.95	23.10	22.54	27.06	N/A
	SD	0.33	0.89	0.43	0.24	0.53	1.58	
	CV	1.3%	4.0%	1.9%	1.0%	2.3%	5.8%	
DNA 100bp	Average	30.10	36.41	27.47	38.72	36.86	38.21	N/A
	SD	0.91	0.36	0.48	1.43	-	0.23	
	CV	3.0%	1.0%	1.7%	3.7%		0.6%	

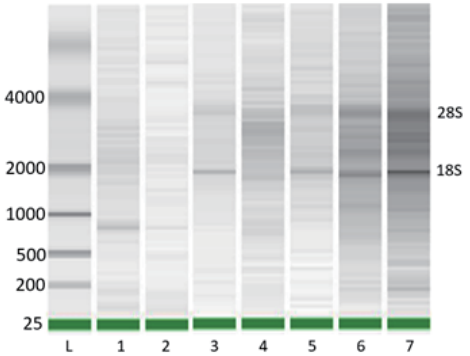


Cultured cell mRNA extraction efficiency of MagCore 639 and other suppliers

	Kit	1*10^6 THP-1 cell						Elution buffer
		without DNase			with DNase			
		Magcore 639	D	N	Magcore 639	D	N	
mRNA 100nt	Average	17.18	17.37	16.48	17.1	17.18	17.17	N/A
	SD	0.62	0.35	0.02	0.20	0.18	0.19	
	CV	3.6%	2.0%	0.1%	1.2%	1.0%	1.1%	
mRNA 500nt	Average	19.59	19.46	19.46	20.00	19.48	19.40	N/A
	SD	0.34	0.54	0.29	0.08	0.18	0.21	
	CV	1.7%	2.7%	1.5%	0.4%	0.9%	1.1%	
DNA 100bp	Average	32.15	34.85	26.48	36.96	37.80	40.00	N/A
	SD	0.50	1.56	0.42	-	-	-	
	CV	1.5%	4.5%	1.6%				



Efficient removal of ribosomal RNA of MagCore 639 and other suppliers.



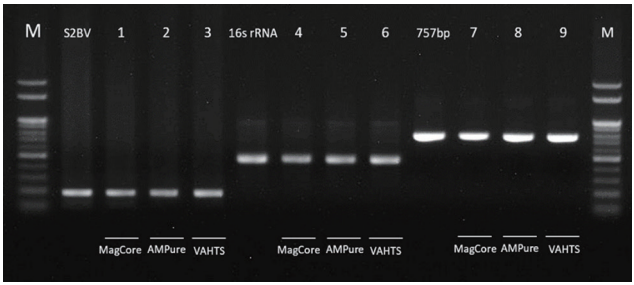
L: *Ladder*
1: *MagCore 639 mRNA from whole blood*
2: *MagCore 639 mRNA from pre-treatment blood*
3: *D brand kit mRNA from pre-treatment blood*
4: *N brand kit mRNA from pre-treatment blood*
5: *MagCore 639 mRNA from THP-1 cell*
6: *D brand kit mRNA from THP-1 cell*
7: *N brand kit mRNA from THP-1 cell*

	Kit brand	Sample	Automatic/Manual	rRNA contamination(%)
1	Magcore 639	Whole blood	Automatic	0
2	Magcore 639	Pre-treatment blood	Automatic	0
3	D		**Manual**	6
4	N			0
5	Magcore 639	THP-1 cell	Automatic	2.6
6	D		**Manual**	6.9
7	N			2.8

➤ MagCore kit: 701
➤ Sample type: PCR product

DNA Yield and Purity

No.	Sample	Method	Sample Conc. (ng/ul)	Product Conc. (ng/ul)	260/280	260/230	Recovery (%)
1	S2BV (200bp)	MagCore 7014	52.35 ng/ul	46.41	2.11	1.56	88.65
2		AM Pure XP	260/280: 1.99	40.47	2.06	2.37	77.3
3		VAHTS DNA Clean Beads	260/230: 2.25	40.14	2.02	2.29	76.67
4	16s rRNA (466bp)	MagCore 7014	51.24 ng/ul	45.23	2.1	1.7	88.27
5		AM Pure XP	260/280: 2.02	41.83	2.1	2.33	81.64
6		VAHTS DNA Clean Beads	260/230: 2.50	46.12	2.13	2.3	90,01
7	757bp	MagCore 7014	49.28 ng/ul	43.66	2.09	1.61	88.59
8		AM Pure XP	260/280: 1.94	40.07	1.94	2.58	81.31
9		VAHTS DNA Clean Beads	260/230: 2.14	43.1	2.04	2.5	87.46



MagCore Instrument: Plus II/Plus II Dx, Super/HF16 Plus
Test-1:

Instrument	Sample	Nanodrop					Elution volume (µl)
		Channel	Yield (ng/µl)	$A_{260/280}$	$A_{260/230}$	A_{340}	
Super	1	2	75.08	1.79	1.78	0.075	91
		4	61.33	1.79	1.79	0.064	94
		6	74.61	1.79	1.72	0.135	101
		8	79.62	1.79	1.73	0.154	94
		10	77.77	1.75	1.67	0.143	95
		12	73.2	1.8	1.68	0.107	99

Instrument	Sample	Nanodrop					Elution volume (µl)
		Channel	Yield (ng/µl)	$A_{260/280}$	$A_{260/230}$	A_{340}	
PLUS II/ PLUS II DX (1)	1	1	77.4	1.79	1.76	0.095	99
		2	79.11	1.77	1.8	0.119	98
		3	75.08	1.79	1.78	0.126	103
		4	74	1.88	1.81	0.093	95
		5	71.16	1.89	1.27	0.199	102
		6	73.61	1.83	1.35	0.129	95
		7	77.7	1.85	1.86	0.169	95
		8	83.21	1.8	1.11	0.269	96
		9	75.48	1.89	1.74	0.117	100
		10	80.3	1.72	1.59	0.429	95

Instrument	Sample	Nanodrop					Elution volume (µl)
		Channel	Yield (ng/µl)	$A_{260/280}$	$A_{260/230}$	A_{340}	
PLUS II/ PLUS II DX (2)	1	1	75.2	1.87	1.79	0.199	100
		2	74.85	1.82	1.73	0.152	101
		3	78.25	1.85	1.87	0.158	98
		4	76.79	1.93	1.78	0.144	100
		5	72.63	1.89	1.87	0.126	101
		6	77.18	1.9	1.86	0.117	99
		7	74.98	1.89	1.88	0.109	101
		8	75.35	1.91	1.77	0.116	102
		9	77.15	1.96	1.84	0.156	101
		10	75.44	1.88	1.75	0.161	101

Instrument	Sample	Nanodrop					Elution volume (µl)
		Channel	Yield (ng/µl)	$A_{260/280}$	$A_{260/230}$	A_{340}	
PLUS II/ PLUS II DX (3)	1	1	75.02	1.86	1.78	0.137	94
		2	78.39	1.84	1.8	0.169	100
		3	61.9	1.8	1.13	0.208	101
		4	75.19	1.89	1.88	0.145	100
		5	71.98	1.87	1.85	0.111	100
		6	74.94	1.89	1.72	0.132	100
		7	78.04	1.88	1.74	0.142	99
		8	72.68	1.87	1.91	0.143	101
		9	74.54	1.96	1.86	0.121	101
		10	74.31	1.96	1.91	0.089	97

Test-2:

Instrument	Sample	Nanodrop					Elution volume (µl)
		Channel	Yield (ng/µl)	$A_{260/280}$	$A_{260/230}$	A_{340}	
Super	2	S1	90.02	1.88	1.95	0.032	93
		S2	86.74	1.81	1.9	0.01	88
		S3	89.94	1.83	1.97	0.039	90
		S4	90.72	1.86	2	0.011	92
		S5	95.13	1.88	1.99	0.027	79
		S6	84.5	1.89	2.06	0.027	82

Instrument	Sample	Nanodrop					Elution volume (µl)
		Channel	Yield (ng/µl)	$A_{260/280}$	$A_{260/230}$	A_{340}	
PLUS II/ PLUS II DX (1)	2	P1	91.73	1.86	1.92	0.033	87
		P2	91.75	1.92	2.05	0.027	85
		P3	95.42	1.83	2.1	0.021	84
		P4	89.44	1.88	2.01	0.024	87
		P5	90.14	1.85	2.01	0.034	89
		P6	88.47	1.91	2.08	0.014	82

Instrument	Sample	Nanodrop					Elution volume (µl)
		Channel	Yield (ng/µl)	$A_{260/280}$	$A_{260/230}$	A_{340}	
PLUS II/ PLUS II DX (2)	2	P1	81.28	1.91	2.03	0.057	95
		P2	88.52	1.89	1.92	0.035	96
		P3	96.08	1.87	2.03	0.008	92
		P4	93.58	1.85	1.56	0.072	89
		P5	89.43	1.86	2.13	0.012	93
		P6	79.22	1.87	2.08	0.017	96

Instrument	Sample	Nanodrop					Elution volume (µl)
		Channel	Yield (ng/µl)	$A_{260/280}$	$A_{260/230}$	A_{340}	
PLUS II/ PLUS II DX (3)	2	P1	87.16	1.92	2.25	-0.058	94
		P2	88.31	1.87	2.06	-0.001	92
		P3	78.12	1.89	2.1	0.009	90
		P4	91.13	1.87	2.18	0.013	92
		P5	90.05	1.87	2.1	0.046	95
		P6	84.09	1.87	1.84	0.056	91

Test-2:

Channel	Elution Volume	Yield(ng/ul)	260/280	260/230
1	100	102.39	1.88	2.1
2	94	92.27	1.87	2.17
3	98	113.86	1.88	2.03
4	104	108.94	1.88	2.09
5	88	113.32	1.89	2.06
6	80	130.02	1.89	2.09
7	97	152.33	1.89	2.12
8	87	107.64	1.88	2.06
9	88	125.04	1.9	2.16
10	91	125.79	1.89	2.1
11	91	138.79	1.9	2.12
12	83	154.95	1.89	2.09
13	91	123.36	1.89	2.09
14	82	153.36	1.9	2.08
15	86	130.08	1.89	2.04
16	92	107.87	1.89	2.07
17	88	141.3	1.9	2.12
18	85	129.88	1.9	2.08
19	85	119.18	1.89	2.02
20	89	127.09	1.89	2.01
21	88	104.39	1.87	1.94
22	85	110.96	1.87	1.93
23	87	108.84	1.88	2.05
24	80	101.79	1.88	2.04
AVERAGE	89.13	121.81	1.89	2.07
SD	6.09	17.31	0.01	0.06
CV(%)	6.83	14.21	0.5	2.73

Running Time List – MagCore® HF16, Compact

Cat. Number	Product	Reactions	Code No.	Running Time
MGB400-01	MagCore® Genomic DNA Whole Blood Kit (Speedy Installation)	36	101	44 min (sample volume :200 µl) 57 min (sample volume :400 µl)
MGB400-02		96		
MGB400-03	MagCore® Genomic DNA Whole Blood Kit	36	102	44 min (sample volume :200 µl) 55 min (sample volume :400 µl)
MGB400-04		96		
MGB1200	MagCore® Genomic DNA Large Volume Whole Blood Kit	96	104	76 min (sample volume :1200 µl)
MPD1200	MagCore® Plasma DNA Extraction Kit	96	105	70 min (sample volume :1200 µl)
MGB400-07	MagCore® Genomic DNA Whole Blood Kit (For Genotyping)	36	106	44min (sample volume :200 µl) 57min (sample volume :400 µl)
MGB400-08		96		
MCC-01	MagCore® Cultured Cells DNA Kit	36	110	44 min (sample volume: 200 µl, up to 5 x 10^6 cells)
MCC-02		96		
MPD-4000-01	MagCore® Circulating DNA Large Volume Kit (4 ml)	24	115	146 min (sample volume :4000 µl)
MPD-4000-03		96		
MVN400-03	MagCore® Viral Nucleic Acid Extraction Kit	36	202	57 min (sample volume :200 µl) 66 min (sample volume :400 µl)
MVN400-04		96		
MVN400-05	MagCore® Viral Nucleic Acid Extraction Kit (High Sensitivity)	36	203	57 min (sample volume :200 µl) 66 min (sample volume :400 µl)
MVN400-06		96		
MVN1200	MagCore® Viral Nucleic Acid Extraction Kit (1.2ml)	96	211	73 min (sample volume :1200 µl)
MGP-01	MagCore® Genomic DNA Plant Kit	36	301	33 min (sample volume :400 µl)
MGP-02		96		
MGT-01	MagCore® Genomic DNA Tissue Kit	36	401	33 min (sample volume :400 µl)
MGT-02		96		
MGF-01	MagCore® Genomic DNA FFPE One-Step Kit	36	405	175 min (2-hour heating) - Standard 1007 min (16-hour heating) - High Yield
MGF-03		72		
MBB-01	MagCore® Genomic DNA Bacterial Kit	36	502	44 min (sample volume :200 µl)
MBB-02		96		
MRF-01	MagCore® Total RNA FFPE One-Step Kit	24	605	147min (without DNase I treatment) 165min (with DNase I treatment)
MRF-03		72		
MMR-01	Magcore Plasma microRNA Extraction Kit	24	620	34 min (without DNase I treatment) 57 min (with DNase I treatment) (sample volume :400 µl)
MMR-03		72		
MRX-01	MagCore® triXact RNA Kit	24	631	58min (without DNase I treatment) 73min (with DNase I treatment)
MRX-03		72		

Running Time List – MagCore® Super, HF16 Plus

Cat. Number	Product	Reactions	Code No.	Running Time Without Optical Detection
MGB400-01	MagCore® Genomic DNA Whole Blood Kit (Speedy Installation)	36	101	39 min (sample volume :200 µl)
MGB400-02		96		50 min (sample volume :400 µl)
MGB400-03	MagCore® Genomic DNA Whole Blood Kit	36	102	39min (sample volume :200 µl)
MGB400-04		96		50min (sample volume :400 µl)
MGB400-03		36	119	30min (sample volume :400 µl)
MGB400-04		96		25min (sample volume: 200 µl)
MGB1200	MagCore® Genomic DNA Large Volume Whole Blood Kit	96	104	83 min (sample volume :1200 µl)
MPD1200	MagCore® Plasma DNA Extraction Kit	96	105	74 min (sample volume :1200 µl)
MGB400-07	MagCore® Genomic DNA Whole Blood Kit (For Genotyping)	36	106	41min (sample volume :200 µl)
MGB400-08		96		53min (sample volume :400 µl)
MCC-01	MagCore® Cultured Cells DNA Kit	36	110	39 min (sample volume: 200 µl)
MCC-02		96		
MPD-4000-01	MagCore® Circulating DNA Large Volume Kit (4 ml)	24	115	146 min (sample volume :4000 µl)
MPD-4000-03		96		
MVN400-03	MagCore® Viral Nucleic Acid Extraction Kit	36	202	56 min (sample volume :200 µl)
MVN400-04		96		72 min (sample volume :400 µl)
MVN400-05	MagCore® Viral Nucleic Acid Extraction Kit (High Sensitivity)	36	203	56 min (sample volume :200 µl)
MVN400-06		96		72 min (sample volume :400 µl)
MVN400-05		36	219	22 min (sample volume :200/400 µl)
MVN400-06		96		
MVN1200	MagCore® Viral Nucleic Acid Extraction Kit (1.2ml)	96	211	80 min (sample volume :1200 µl)
MVN2401	MagCore® Viral Nucleic Acid Large Volume Extraction Kit (2.4 ml) High Sensitivity	96	220	95 min (sample volume :2400 µl)
MGP-01	MagCore® Genomic DNA Plant Kit	36	301	33 min (sample volume :400 µl)
MGP-02		96		
MGT-01	MagCore® Genomic DNA Tissue Kit	36	401	33 min (sample volume :400 µl)
MGT-02		96		
MGF-01	MagCore® Genomic DNA FFPE One-Step Kit	36	405	162 min (2-hour heating) - Standard
MGF-03		72		989 min (16-hour heating) - High Yield
MFC-03	MagCore® Forensic DNA Direct Kit	72	406A	120 min
			406B	220 min
			406C	180 min
MBB-01	MagCore® Genomic DNA Bacterial Kit	36	502	39 min (sample volume :200 µl)
MBB-02		96		
MGM-01	MagCore® Gut Microbiome DNA Kit	24	504	52min (sample volume: 850ul)
MGM-02		72		
MRF-01	MagCore® Total RNA FFPE One-Step Kit	24	605	140min (without DNase I treatment)
MRF-03		72		158min (with DNase I treatment)
MMR-01	Magcore Plasma microRNA Extraction Kit	24	620	40 min (without DNase I treatment)
MMR-03		72		59 min (with DNase I treatment) (sample volume :400 µl)
MRX-01	MagCore® triXact RNA Kit	24	631	48min (without DNase I treatment)
MRX-03		72		81min (with DNase I treatment)
MNC-01	MagCore® NGS Auto Size-Select purification Kit	36	701 A	29min (sample volume :50 µl)
			701 B	36min (sample volume :50 µl)
MNC-02		96	701 C	36min (sample volume :50 µl)

*Optical detection tact time : 15 min

Running Time List - MagCore® Plus II

Cat. Number	Product	Reactions	Code No.	Running Time
MGB400-01	MagCore® Genomic DNA Whole Blood Kit (Speedy Installation)	36	101	44 min (sample volume :200 µl) 55 min (sample volume :400 µl)
MGB400-02		96		
MGB400-03	MagCore® Genomic DNA Whole Blood Kit	36	102	44min (sample volume :200 µl) 55min (sample volume :400 µl)
MGB400-04		96		
MGB400-03		36	119	32min (sample volume :400 µl) 26min (sample volume: 200 µl)
MGB400-04		96		
MGB1200	MagCore® Genomic DNA Large Volume Whole Blood Kit	96	104	88 min (sample volume :1200 µl)
MPD1200	MagCore® Plasma DNA Extraction Kit	96	105	79 min (sample volume :1200 µl)
MGB400-07	MagCore® Genomic DNA Whole Blood Kit (For Genotyping)	36	106	46min (sample volume :200 µl) 58min (sample volume :400 µl)
MGB400-08		96		
MCC-01	MagCore® Cultured Cells DNA Kit	36	110	44 min (sample volume: 200 µl)
MCC-02		96		
MPD-4000-01	MagCore® Circulating DNA Large Volume Kit (4 ml)	24	115	151 min (sample volume :4000 µl)
MPD-4000-03		96		
MVN400-03	MagCore® Viral Nucleic Acid Extraction Kit	36	202	61 min (sample volume :200 µl) 77 min (sample volume :400 µl)
MVN400-04		96		
MVN400-05	MagCore® Viral Nucleic Acid Extraction Kit (High Sensitivity)	36	203	61 min (sample volume :200 µl) 77 min (sample volume :400 µl)
MVN400-06		96		
MVN400-05		36	219	22 min (sample volume :200/400 µl)
MVN400-06		96		
MVN2401	MagCore® Viral Nucleic Acid Large Volume Extraction Kit (2.4 ml) High Sensitivity	96	220	95 min (sample volume :2400 µl)
MGP-01	MagCore® Genomic DNA Plant Kit	36	301	38 min (sample volume :400 µl)
MGP-02		96		
MGT-01	MagCore® Genomic DNA Tissue Kit	36	401	38 min (sample volume :400 µl)
MGT-02		96		
MGF-01	MagCore® Genomic DNA FFPE One-Step Kit	36	405	167 min (2-hour heating) - Standard 994 min (16-hour heating) - High Yield
MGF-03		72		
MFC-03	MagCore® Forensic DNA Direct Kit	72	406A	125 min
			406B	225 min
			406C	185 min
MBB-01	MagCore® Genomic DNA Bacterial Kit	36	502	44 min (sample volume :200 µl)
MBB-02		96		
MGM-01	MagCore® Gut Microbiome DNA Kit	24	504	55min (sample volume: 850ul)
MGM-02		72		
MRF-01	MagCore® Total RNA FFPE One-Step Kit	24	605	145min (without DNase I treatment) 163min (with DNase I treatment)
MRF-03		72		
MMR-01	Magcore Plasma microRNA Extraction Kit	24	620	39 min (without DNase I treatment) 60 min (with DNase I treatment) (sample volume :400 µl)
MMR-03		72		
MRX-01	MagCore® triXact RNA Kit	24	631	53min (without DNase I treatment) 86min (with DNase I treatment)
MRX-03		72		
MNC-01	MagCore® NGS Auto Size-Select purification Kit	36	701 A	29min (sample volume :50 µl)
			701 B	36min (sample volume :50 µl)
MNC-02		96	701 C	36min (sample volume :50 µl)

Running Time List - MagCore® HF48

Cat. Number	Product	Reactions	Code No.	Running Time	
				24 samples (min)	48 samples (min)
MGB400-01	MagCore® Genomic DNA Whole Blood Kit (Speedy Installation)	36	101	44 (400 µl sample) 54(200 µl sample)	93 (400 µl sample) 110 (200 µl sample)
MGB400-02		96			
MGB400-03	MagCore® Genomic DNA Whole Blood Kit	36	102	44(400 µl sample) 54(200 µl sample)	93(400 µl sample) 110(200 µl sample)
MGB400-04		96			
MGB1200	MagCore® Genomic DNA Large Volume Whole Blood Kit	96	104	72 min	143 min
MPD1200	MagCore® Plasma DNA Extraction Kit	96	105	62 min	124 min
MGB400-07	MagCore® Genomic DNA Whole Blood Kit (For Genotyping)	36	106	44(400 µl sample) 54 (200 µl sample)	93 (400 µl sample) 110 (200 µl sample)
MGB400-08		96			
MVN400-03	MagCore® Viral Nucleic Acid Extraction Kit	36	202	55 (400 µl sample) 63 (200 µl sample)	107 (400 µl sample) 125 (200 µl sample)
MVN400-04		96			
MVN400-05	MagCore® Viral Nucleic Acid Extraction Kit (High Sensitivity)	36	203	55 (400 µl sample) 63 (200 µl sample)	107 (400 µl sample) 125 (200 µl sample)
MVN400-06		96			
MVN1200	MagCore® Viral Nucleic Acid Extraction Kit (1.2ml)	96	211	68min	
MGT-01	MagCore® Genomic DNA Tissue Kit	36	401	34 min	71 min
MGT-02		96			
MBB-01	MagCore® Genomic DNA Bacterial Kit	36	502	45 min	91 min
MBB-02		96			

Product Selection Guide

		Cat No. 24preps	Cat No. 36preps	Cat No. 72preps	Cat No. 96preps	Whole Blood	Buffy Coat	Plasma/Serum	Cell-free body fluids	Urine	Circulating DNA	Cultured Cells	Animal Tissue	Plant Tissue	Bacteria/Sputum	Swab	FFPE	Stool	Forensic Specimens	PCR Product
Genomic DNA	**101** MagCore® Genomic DNA Whole Blood Kit (Speedy installation)		MGB400-01		MGB400-02	■	■													
	102 MagCore® Genomic DNA Whole Blood Kit		MGB400-03		MGB400-04	■	■													
	104 MagCore® Genomic DNA Large Volume Whole Blood Kit (1.2 ml)				MGB1200	■														
	105 MagCore® Plasma DNA Extraction Kit (1.2 ml)				MPD1200			■	■		■									
	106 MagCore® Genomic DNA Whole Blood Kit (For Genotyping)		MGB400-07		MGB400-08	■														
	110 MagCore® Cultured Cells DNA Kit		MCC-01		MCC-02							■								
	115 MagCore® Circulating DNA large volume kit (4 ml)	MPD4000-01			MPD4000-03				■		■									
	301 MagCore® Genomic DNA Plant Kit		MGP-01		MGP-02									■						
	401 MagCore® Genomic DNA Tissue Kit		MGT-01		MGT-02								■			■	■	■	■	
	405 MagCore® Genomic DNA FFPE One-Step Kit		MGF-01	MGF-03													■			
	406 MagCore® Forensic DNA Direct Kit			MFC-03												■			■	
	502 MagCore® Genomic DNA Bacterial Kit		MBB-01		MBB-02										■					
	504 MagCore® Gut Microbiome DNA Kit		MGM-01	MGM-02														■		
Viral Nucleic Acids	**202** MagCore® Viral Nucleic Acid Extraction Kit (Low PCR Inhibition)		MVN400-03		MVN400-04			■	■	■										
	203 MagCore® Viral Nucleic Acid Extraction Kit (High Sensitivity)		MVN400-05		MVN400-06			■	■	■										
	219 MagCore® Viral Nucleic Acid Extraction Kit (High Sensitivity)		MVN400-05		MVN400-06			■	■	■										
	211 MagCore® Viral Nucleic Acid Large Volume Extraction Kit (1.2 ml)				MVN1200			■	■	■										
	220 MagCore® Viral Nucleic Acid Large Volume Extraction Kit (2.4 ml) High Sensitivity				MVN2400			■	■	■										
Total RNA	**605** MagCore® Total RNA FFPE One-step Kit	MRF-01		MRF-03													■			
	620 MagcorePlasma:microRNA Extraction Kit	MMR-01		MMR-03				■	■											
	631 MagCore® MagCore® triXact RNA Kit	MRC-01		MRX-03		■						■	■							
NGS	**701** MagCore® NGS Auto Size-Select purification Kit		MNC-01		MNC-02															■

Ordering Information

Product	Contents	Cat. No.
Accessories of HF16		
Cartridge Rack		MRC001
T-Rack	For General Use	MRC002
T-Rack (for 5 ml sample tube)	For MVN2400	MRC003
Accessories of HF16 Plus, Super and Plus II		
Cartridge Rack		P46020018
T-Rack		P46020019
MagCore® Cuvette Set	10 pcs	MSC010
	96 pcs	MSC100
Thermal Paper	(57mmx 50mm x12mm) *1 roll	P46020008
	(57mmx 50mm x12mm) *5 roll	P46020009
SP T-Rack (For 5 ml Sample Tube)	For MagCore HF16 PLUS/ SUPER Tip/Tube Rack (8-slot rack)	P46020066
Standard Tip Rack for Plus II	For MagCore Plus II Standard Tip/Tube Rack (16-slot rack)	P46030003
PLUS II T-Rack (For 5 ml Sample Tube)	For MagCore Plus II Tip/Tube Rack (16-slot rack)	P46030002
Extraction Tray Sets	For MagCore Plus II Tray Set	P46030006
Paper Bin Bags For Plus II (50 pcs)	For MagCore Plus II 50 Bin Bags / Package	MPB50
Paper Bin Bags For Super/HF16 Plus (50 pcs)	For MagCore HF16 PLUS/ SUPER / 50 Bin Bags / Package	MSB50
Enzyme		
Proteinase K Set	11 mg Proteinase K, 1.25 ml PK Storage Buffer	PK011
RNase A	50 µl RNase A (50mg/ml)	RN050
	130 µl RNase A (50mg/ml)	RN130
Lysozyme	Lysozyme 20 mg/ vial x1	YLY20
	Lysozyme 250 mg/ vial x4	YLY250
DNase I Set	For 36 Reactions RNase-Free DNase I (Lyophilized):1500 Kunitz Units x 1 Vial, 1 ml RNase-Free Water x1, 15 ml DNase I Reaction Buffer	DN036
	For 96 Reactions RNase-Free DNase I (Lyophilized):1500 Kunitz Units x 2 Vials, 1 ml RNase-Free Water x 2, 30 ml DNase I Reaction Buffer	DN096

Document Revision History

Date	Changes
July 2022 EN-MagCore Nucleic Acid Extraction Kit User's Manual-1.0.0	Update the following sections: General Considerations; Document Revision History Update to comply with the requirements of the IVD Regulation (EU) 2017/746.
Nov 2022 EN-MagCore Nucleic Acid Extraction Kit User's Manual-1.0.1	Change in the quantity of plastic consumables.
Dec 2022 EN-MagCore Nucleic Acid Extraction Kit User's Manual-1.1.0	Add in new kits 220, 219 to the category. Remove kit 201, 210, 601, 610.
Jun 2023 EN-MagCore Nucleic Acid Extraction Kit User's Manual-1.1.1	Update the following sections: program instructions of super & plus II; kits: 202, 605
Jun 2023 EN-MagCore Nucleic Acid Extraction Kit User's Manual-1.1.2	Update the following sections: kits: 504, 405; Running Time List
Jan 2024 EN-MagCore Nucleic Acid Extraction Kit User's Manual-1.1.3	Add in kits: 639
Mar 2024 EN-MagCore Nucleic Acid Extraction Kit User's Manual-1.1.4	Update the following sections: kit: 639; All kits instruction; Add in the applicable model - EDA to compatible kits
Jan 2025 EN-MagCore Nucleic Acid Extraction Kit User's Manual-1.1.5	Add in the validation data of kit 620
Feb 2025 EN-MagCore Nucleic Acid Extraction Kit User's Manual-1.1.6	Amend the instruction of Kit 504
Jun 2025 EN-MagCore Nucleic Acid Extraction Kit User's Manual-1.1.7	Remove FDA logo
Sep 2025 EN-MagCore Nucleic Acid Extraction Kit User's Manual-1.1.8	Update kit203 & 102 about faster protocol 219 & 119; Update Kit 631 & 639 info; Update result info
Mar 2026 EN-MagCore Nucleic Acid Extraction Kit User's Manual-1.1.9	Update kit details. Add in EDA rack placement instruction. Add in kits: 506
May 2026 EN-MagCore Nucleic Acid Extraction Kit User's Manual-1.1.10	Update kit instruction.
Aug 2026 EN-MagCore Nucleic Acid Extraction Kit User's Manual-1.1.11	Update kits 102(119). Update Running Time List.
Aug 2026 EN-MagCore Nucleic Acid Extraction Kit User's Manual-1.1.12	Update kits 401.
Oct 2026 EN-MagCore Nucleic Acid Extraction Kit User's Manual-1.1.13	Update kits names.

MagCore®

RBC Bioscience Corp.

15F, No.15, Qiaohe Rd, Zhonghe Dist, New Taipei City 235029, Taiwan
TEL: +886 2 8912 1200 ； FAX: +886 2 8912 1300
www.rbcbioscience.com