MagCore® Total RNA Whole Blood Kit

For total RNA extraction from human whole blood.
Applicable Models : HF16, Compact, HF48, Super, HF16 Plus, Plus II

Cartridge Code 601

Cat.No.MRN-01 // MRN-02

Kit Contents

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

Cat.No. MRN-01 Contents:

Pre-filled Cartridge Reagent	*36 pcs.*
Pipet Tip plus Holder Set	*36 sets.*
Sample Tube	*36 pcs.*
Elution Tube	*36 pcs.*
RBC Lysis Buffer(100ml)	*1 pcs.*
RB Buffer(15ml)	*1 pcs.*

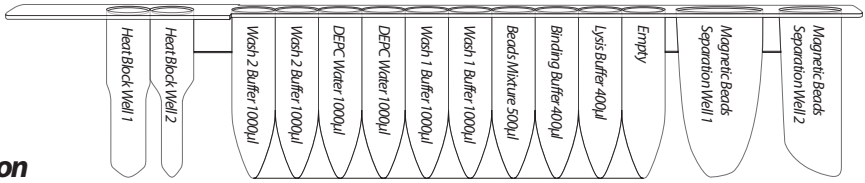
Cat.No. MRN-02 Contents:

Pre-filled Cartridge Reagent	*96 pcs.*
Pipet Tip plus Holder Set	*100 sets.*
Sample Tube	*100 pcs.*
Elution Tube	*100 pcs.*
RBC Lysis Buffer(200ml)	*1 pcs.*
RB Buffer(30ml)	*1 pcs.*

Storage and Stability :

1. This kit should be stored at room temperature.
2. Shelf Life: 18 Months.

Cartridge Contents :



Description

MagCore® Total RNA Whole Blood Kit is specially designed for total RNA purification from up to 400µl human whole blood of leukocytes. The program provides optional protocol for contaminated genomic DNA remove. Combine RBC high quality RNase-free DNase I with MagCore® Total RNA Whole Blood Kit can provide high quality DNA-free total RNA.

Applications

Using magnetic-particle technology to purify total RNA. 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 RB Buffer before use. Add 10µl of β-ME per 1 ml of RB Buffer.
2. Recommended Step: DNA residue degradation. Prepare DNase I (RNase-free) working solution according to the table below. Add 10µl DNase I with 190µl DNase reaction buffer (1X) in the 1.5 ml screw tube (not provided) and place it into well 3 of T-Rack.

Healthy Whole Blood	DNase I	DNase Buffer 1X
Up to 400 µl	10 µl	190 µl

3. RNase-free DNase I is not including in MagCore® total RNA Whole Blood Kit, we recommend to use RBC RNase-free DNase I (Cat#DN036 or Cat#DN096) for genomic DNA treatment. For product information, please contact RBC Bioscience distributor. We also recommend to use RNase-free DNase I enzyme(1U/µl) of Novagen (Cat#69182-3). Please contact local Merck branch office or distributor for product information. 1X DNase Buffer can be prepared as following:

   1X DNase I Reaction Buffer

   10 mM Tris, pH7.6; 2.5 mM $MgCl_2$; 0.1 mM $CaCl_2$; in DEPC water, autoclave.

Fresh Whole Blood Protocol

Without DNase I Treatment

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 1200µl of RBC lysis Buffer to 400µl of whole blood.)
2. Incubate the tube for 10 minutes on ice and invert 2~3 times during incubation.
3. Centrifuge for 3 minutes at 500 x g (2,500rpm) at 4℃ and completely discard the supernatant.
4. Add 500µl RBC lysis Buffer to the cell pellet. Resuspend cells by vortex briefly.
5. Transfer the suspended cells to the MagCore® Sample Tube.
6. Centrifuge for 3 minutes at 500 x g (2,500rpm) at 4 ℃ and completely discard the supernatant.
7. Add 200µl RB buffer (contain β-ME) to the white pellet and mix by vortexing. (can storage up to 1 month at -80℃)
8. Put the prepared Sample Tube into the correct well of T-Rack. (see page 3-10)
9. Put Elution Tube and Tip Plus Holder Set (HF16, Compact) / Pipette Tip (Super, Plus) into the correct wells of T-Rack. (see page 3-10)
10. Run Code 601 program at MagCore® and select Remove Genomic DNA (2)NO.

With DNase I Treatment

1. Follow step 1~9 of without DNase I treatnent protocol to prepare whole blood cell sample.
2. Be sure to place the 200µl DNase I mixture (in 1.5 ml screw tube) into the well 3 of T-Rack.
3. Run Code 601 program at MagCore® and select Remove Genomic DNA (1)YES.

MagCore® Total RNA Cultured Cells Kit

For total RNA extraction from cultured cells.
Applicable Models : HF16, Compact, HF48, Super, HF16 Plus, Plus II

Cartridge Code 610

Cat.No.MRC-01 // MRC-02

Kit Contents

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

Cat.No. MRC-01 Contents:

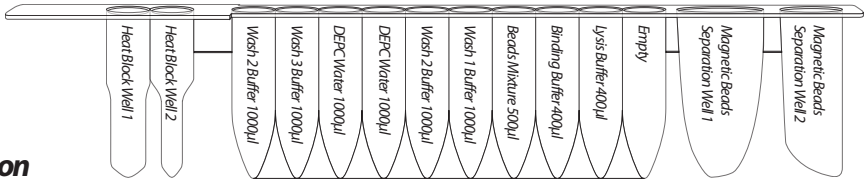
Pre-filled Cartridge Reagent	*36 pcs.*
Pipet Tip plus Holder Set	*36 sets.*
Sample Tube	*36 pcs.*
Elution Tube	*36 pcs.*
RB Buffer(15ml)	*1 pcs.*

Cat.No. MRC-02 Contents:

Pre-filled Cartridge Reagent	*96 pcs.*
Pipet Tip plus Holder Set	*100 sets.*
Sample Tube	*100 pcs.*
Elution Tube	*100 pcs.*
RB Buffer(30ml)	*1 pcs.*

Storage and Stability :
1. This kit should be stored at room temperature.
2. Shelf Life: 18 Months.

Cartridge Contents :



Description

MagCore® Total RNA Cultured Cells Kit is specially designed for total RNA purification from up to 1x10^6 cultured cells by using MagCore® auto-extraction instrument.The program provides optional protocol for contaminated genomic DNA remove. Combine RBC high quality RNase-free DNase I with MagCore® Total RNA Cultured Cells Kit can provide high quality DNA-free total RNA.

Applications

Using magnetic-particle technology to purify total RNA. 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 RB Buffer before use. Add 10µl of β-ME per 1 ml of RB Buffer.
2. Recommended Step: DNA residue degradation. Prepare DNase I (RNase-free) working solution according to the table below. Add 10µl DNase I with 190µl DNase reaction buffer (1X) in the 1.5 ml screw tube (not provided) and place it into well 3 of T-Rack.

Cultured Cells	DNase I	1X DNase Buffer
Up to $1x10^6$	10 µl	190 µl

3. RNase-free DNase I is not including in MagCore® total RNA Cultured Cells Kit, we recommend to use RBC RNase-free DNase I (Cat#DN036 or Cat#DN096) for genomic DNA treatment. For product information, please contact RBC Bioscience distributor. We also recommend to use RNase-free DNase I enzyme (1U/µl) of Novagen (Cat#69182-3). Please contact local Merck branch office or distributor for product information. 1X DNase Buffer can be prepared as following:

   1X DNase I reaction buffer

   10 mM Tris, pH7.6 ; 2.5 mM $MgCl_2$; 0.1 mM $CaCl_2$; in DEPC water, autoclave.

Cultured Cells Protocol

Sample Preparation

A. Cells grown in suspension

Cells grown in suspension (up to 1 x 10^6 cells). Determine the number of cells. Transfer appropriate number of cells to the MagCore® Sample Tube (provided) and centrifuge for 5 min. at 300 x g. Remove the supernatant completely and discard, Continue with MagCore® Operation step.

B. Cells grown in a monolayer

Cells grown in a monolayer (up to 1 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 1 x 10^6 cells) to the MagCore® Sample Tube (provided). Centrifuge for 5 min. at 300 x g. Remove the supernatant completely and discard, taking care not to disturb the cell pellet. Continue with MagCore® Operation step.

Using a cell scraper:

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

MagCore® Operation

Without DNase I Treatment

1. Add 200µl RB buffer (contain β-ME) to the cells pellet and mix by vortexing (can storage up to 1 month at -80°C).
2. Put the prepared Sample Tube into the correct well of T-Rack. (see page 3-10)
3. Put Elution Tube and Tip Plus Holder Set (HF16,Compact) / Pipette Tip (Super, Plus) into the correct wells of T-Rack. (see page 3-10)
4. Run Code 610 program at MagCore® and select Remove Genomic DNA (2) NO.

With DNase I Treatment

1. Follow step 1~3 of without DNase I treatnent protocol to prepare culture cell sample.
2. Be sure to place the 200µl DNase I mixture (in 1.5 ml screw tube) into the well 3 of T-Rack.
3. Run Code 610 program at MagCore® and select Remove Genomic DNA (1) YES.

MagCore® triXact RNA Kit

For extraction of total RNA from cultured cells, whole blood and tissues.
Applicable Models : HF16, Compact, HF48, Super, HF16 Plus, Plus II

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:

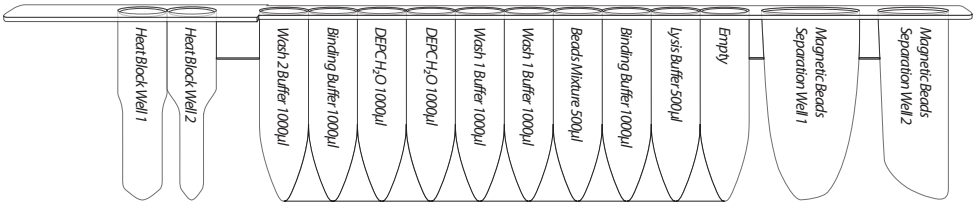
Pre-filled Cartridge Reagent	*24pcs.*
Pipet Tip plus Holder Set	*25pcs.*
Sample Tube	*25pcs.*
Elution Tube	*25pcs.*
RBC Lysis Buffer (100 ml)	*1 pcs.*
RB Buffer(30ml)	*1 pcs.*
Filter column Set	*25pcs.*

Cat.No. MRX-03 Contents:

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

Storage and Stability :
1. This kit should be stored at room temperature.
2. Shelf Life : 12 Months.

Cartridge Contents :



Description

MagCore® triXact RNA Kit is specially designed for total RNA purification from up to 5x10^6 cultured cells, a variety of tissues, or whole blood. 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 from cultured cells, human whole blood, and animal tissue samples. 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 RB Buffer before use. Add 10 µl of β-ME per 1 ml of RB 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 the correct wells of T-Rack. (see page 3-10)
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 RB buffer for stabilization. The samples can be stored at -80°C up to 1 month in the RB 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 5X10^6 cells), first determine the number of cells. Transfer appropriate number of cells to the MagCore® Sample Tube (provided) and centrifuge at 300g for 5 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 5X10^6 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 5X10^6 cells) to the MagCore® Sample Tube (provided). Centrifuge at 300g for 5 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 5X10^6 cells) to the MagCore® Sample Tube (provided) and centrifuge at 300g for 5 minutes. Remove the supernatant completely and discard. Be careful not to disturb the cell pellet. Continue with MagCore® Operation steps.

MagCore® Operation

Without DNase I Treatment

1. Follow the important notes for the following step.
2. Add 400 µl RB 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)
3. Put the prepared Sample Tube into the correct well of T-Rack. (see page 3-10)
4. Put Elution Tube and Tip Plus Holder Set (HF16,Compact) / Pipette Tip (Super, Plus) into the correct wells of T-Rack. (see page 3-10)
5. Run Code 631 program at MagCore® and select (2) NO to "Select DNase treatment".

With DNase I Treatment

1. Follow step 1~3 of without DNase I treatment protocol to prepare cultured cells sample.
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 3-10)
3. Run Code 631 program at MagCore® and select (1) YES for Select DNase treatment.

Fresh Whole Blood Protocol

Without DNase I Treatment

1. Follow the important notes for the following step.
2. 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.)
3. Incubate the tube on ice for 10 minutes and invert 2~3 times during incubation.
4. Centrifuge for 3 minutes at 500 x g (2500rpm) at 4℃ and completely discard the supernatant.
5. Add 500 µl RBC lysis Buffer to the cell pellet. Resuspend cells by brief vortexing, keep the samples on ice.
6. Transfer the suspended cells to the MagCore® Sample Tube.
7. Centrifuge for 3 minutes at 500 x g (2500rpm) at 4℃ and discard the supernatant completely.
8. Add 400 µl RB buffer (contain β-ME) to the pellet and mix by vortexing, keep the samples on ice (can store up to 1 month at -80℃).
9. Put the prepared Sample Tube into the correct well of T-Rack. (see page 3-10)
10. Put Elution Tube and Tip Plus Holder Set (HF16,Compact) / Pipette Tip (Super, Plus) into the correct wells of T-Rack. (see page 3-10)
11. Run Code 631 program on MagCore® and select DNase treatment (2) NO.

With DNase I Treatment

1. Follow step 1~9 of the protocol above (without DNase I treatment) to prepare whole blood cell sample.
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 3-10)
3. Run Code 631 program on MagCore® and select (1) YES for Select DNase treatment.

Tissue Protocol

Cell Lysis

1. *Follow the important notes for the following step.*
2. *Cut off up to 50 mg of fresh or frozen animal tissue and transfer into a RNase-free microcentrifuge tube(not provided).*
3. *Add 400 µl RB Buffer (containing β-ME) into the tube and use RNase-free micropestle (not provided) to sufficiently grind the tissue a few times.*
4. *Incubate at room temperature for 5 minutes. Use a Filter Column Set and apply sample mixture to the column.*
5. *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 3-10)*
2. *Put Elution Tube and Tip Plus Holder Set (HF16,Compact) / Pipette Tip (Super, Plus) into the correct wells of T-Rack. (see page 3-10)*
3. *Run Code 631 program on MagCore® and select (2) NO to "Select DNase treatment".*

With DNase I Treatment

1. *Follow step 1~2 of without DNase I treatment protocol to prepare tissue sample.*
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 3-10)*
3. *Run Code 631 program on MagCore® and select (1) YES for Select DNase treatment.*