

Research Use Only

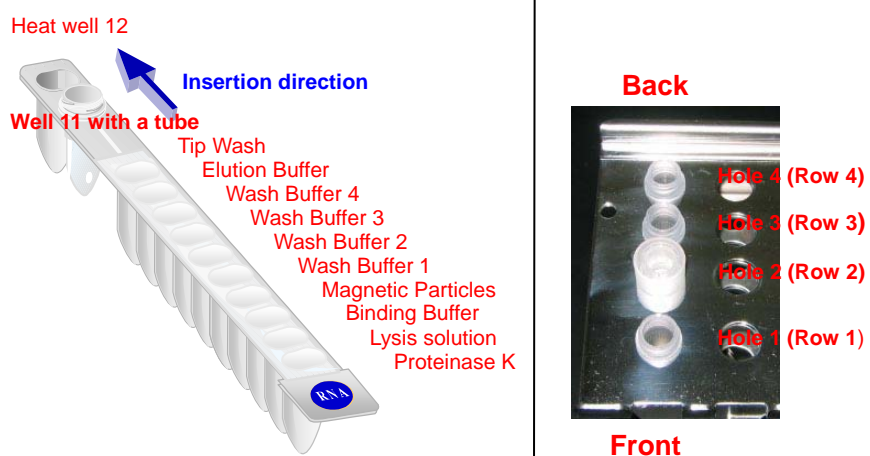
[Characteristics]

Magtration[®]-MagaZorb[®] reagent is a simple, fast and cost-effective technique to isolate RT-PCR quality RNA from a variety of starting materials automatically. One common kit can isolate RNA from whole bloods, cells, bacteria, viruses with the sample volume 200ul and tissues*¹ with the sample volume 150ul. Magtration[®]-MagaZorb[®] RNA reagents are all pre-filled in a cartridge and do not require an organic solvent. This proprietary technology eliminates the need for centrifugation, vacuum filtration or column separation, thereby minimizing cross-contamination and improving reproducibility. The purified RNA is ready for downstream applications.

Magtration[®] Technology is proprietary technology to realize fully automated magnetic particle related manipulation. Magtration[®]-MagaZorb[®] RNA Common kit can only be used by the combination with Magtration[®] System 12GC.

*1: For tissue RNA purification, select tissue protocol from the menu. For preparing tissue samples and perform isolation correctly, please consult Tissue Supplement Protocol Code No 2003.

[Cartridge and tip/tube rack Configurations]



[Kit Contents]

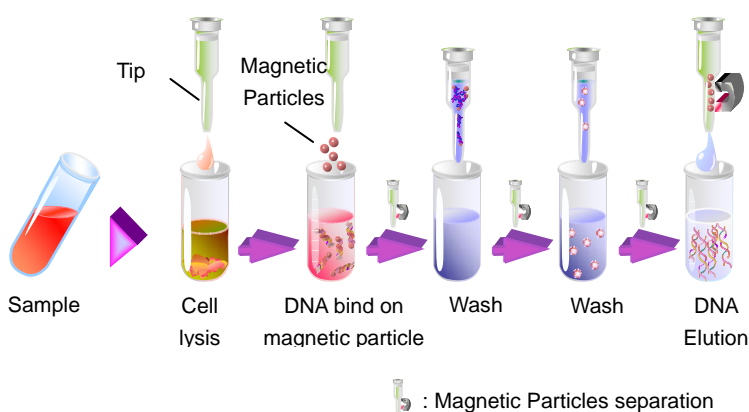
1. Reagent pre-filled Cartridges	48
2. Tips	50
3. Tip sheaths	50
4. Micro Tubes (1.5 ml)	200

[Intended Use]

Isolation of RNA from whole bloods, cells, bacteria, viruses and tissues*¹. This kit is for research use only. Do not use for diagnostic or clinical purpose.

[Principle of extraction (Magtration[®] Technology)]

Magtration Technology is a patented technology to perform beads and fluid separation by trapping magnetic particles onto the inside wall of specifically designed dispensing tip.



[Procedure]

1. Insert an IC card with Magtration[®]-MagaZorb[®] RNA Common Kit protocol into instrument.
2. Disposable required
 - a. Tip Set (Tip with Tip sheath)
 - b. Three 1.5ml micro tubes.

Note 1: For DNase digestion, four 1.5ml micro tubes are required.

Note 2: Use provided micro tubes in kit. Similar tubes can be used only those have exact tube size of the provided tubes.
3. Operation

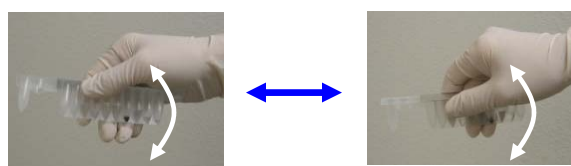
Please read carefully the Operator's Manual of Magtration System 12GC before operate.

 - a. Insert Magtration[®]-MagaZorb[®] RNA cartridges in the Reagent Cartridge Rack and set the rack on the instrument.
 - b. Place a set of tip and tip sheath at the hole 2 (Row 2), 1.5ml micro tubes at hole 1 (Row 1) on the tip/tube rack and at well 11 on Reagent Cartridge too.
 - c. Dispense 200ul sample in 1.5ml micro tube and place at hole 4 (row 4) on the tip/tube rack*¹.
 - d. For DNase digestion protocol, dispense 100ul DNase solution*² in 1.5ml micro tube and place at hole 3 (row 3) on the tip/tube rack.
 - e. Confirming all disposables, reagents and samples are set and close the front door.
 - f. Select an appropriate protocol from the menu, "RNA common" for whole bloods, cells, bacteria and viruses or "Tissue RNA".
 - g. Select "Start" on the operation panel and follow the instruction displayed.
 - h. When the run is finished, a beep sounds. Open the door and take out elution tubes.

*2: 20ul of DNase I (RNase-free) from Ambion (Cat # 2222, 2U/ul) and 80ul of 10X DNase Buffer including in DNase I package.

[Precautions to correctly use kit]

1. During storage, reagents are evaporated and condensed on the laminated surface that makes significant volume shortage especially for Proteinase K and Magnetic particles. To ensure all reagents are settled on the well bottoms, grab aluminum seal side and swing down cartridge several times, followed by gentle taping on lab bench. **This procedure is prerequisite to obtain good results.**



2. At storage temperature less than 20°C, precipitates may appear in Lysis solution. If precipitates are observed, heat the cartridge to 25-37°C to dissolve precipitates.
3. Make sure samples are at room temperature and mixed equally before dispensing into tubes.
4. Make sure caps are removed from 1.5ml micro tubes.
5. In some cases, you may find slight magnetic beads in elution, but those beads do not have detrimental effect for RT-PCR process.
6. Calculate the RNA concentration and A₂₆₀ and A₂₈₀ ratio by subtracting A₃₂₀ value from A₂₆₀ and A₂₈₀
7. **Some of the reagents in this kit contain high levels of protein denaturants. Wear disposable gloves when using the kit to avoid direct skin contact. Wash out with a lot of water when reagent gets on your skin, or consult with medical doctor after washing with water when it gets into your eyes.**

[Typical Performance]

Samples type	Yield	Purity (Ratio A_{260}/A_{280})
Whole Blood	~2.9 – 5.5ug/200ul	~1.8
Cells (SP2/0)	~10ug/1x10 ⁶ cells	~1.8
Tissue (Human liver)	~15ug/10mg	~1.8

The yield may vary by samples or their condition slightly. The above numbers are for your reference.

[Trouble Shooting]

If you had problems, please refer to the counter measures explained below.

(1) Low yield

Possible causes	Counter measures by causes
Sample condition	Check if temperature or place stored were adequate, or the run was performed after it became to room temperature. Try another run using new flesh samples.
Storage condition of reagents	Check temperature and circumstance of storage place for any abnormality. Do not allow reagents to freeze. Vibration to the magnetic beads may affect the reagent performance. Do not store reagents under excessive vibration. Try another run with new flesh samples. At temperature less than 20°C, precipitates may appear in lysis solution that have to be dissolved before use by heating cartridge at 25-37°C.
Sample amount	When the excessive amount of the sample is used, RNase may not be inactivated sufficiently. Try to reduce the amount of the sample. Recommended sample volumes are less than 10mg tissue and less than 1x10 ⁶ cells.
Grade/purity of DNase	Degradation of the RNA may occur due to impurity of DNase I. Try to use RNase-free DNase I. Ambion DNase I is recommended.. For DNase buffer, it is also advisable to use RNase-free product.
Others	Stored samples in refrigerator may give lower yields depending on the period. Try another run with newly collected samples.

(2) Inadequate RT-PCR result

Possible cause	Counter measures by causes
Interference by genome DNA	If a pseudo gene possessing an identical structure to mRNA exists in the genome, it is necessary to consider the influence of DNA. Try to use a protocol containing DNase treatment with 12GC/6GC.
Others	pH condition in RT-PCR process may affect the result.

[Storage Condition]

Store the reagents at room temperature (10-30deg. C.), and avoid high temperature and high humidity circumstance. Do not store them upside down. Do not freeze.

Cautions:

All reagents included in this kit are for research use only. Do not use for the purpose of diagnosis or as clinical testing reagents. For your safety, follow the general precautions at your lab. when using this kit. PCR method is patented by Hoffman-La Roche Co., Ltd. You may be requested to get agreement by the company, depending on the purpose of its usage.

Magtration[®] is a registered mark owned by Precision System Science Co., Ltd. MagaZorb[®] is a registered mark owned by Cortex Biochem Inc.

[Manufactured and sold by]

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