【Product Name】 MagPure Universal RNA Kit

【Product specifications】 20Preps, 200 Preps/Kit

【Intended Use】

This product is suitable for rapid extraction of RNA from tissue, cells, blood, s and other clinical samples. RNA can be used directly for RT-PCR, quantitative RT-PCR and so on.

【Principle】

This product is based on the purification method of high binding magnetic particles. The sample is lysed and digested under the action of lysate and Protease. After adding magnetic particles and binding solution, RNA will be adsorbed on the surface of magnetic particles, and impurities such as proteins will be removed without adsorption. The adsorbed particles were washed with washing solution to remove proteins and impurities, washed with ethanol to remove salts, and finally RNA was eluted by Elution Buffer.

【Main Composition】

| Cat.No. | IVD3020-20 | IVD3020 | Main Composition |
|---|---|---|---|
| Purification times | 20 | 200 | - |
| MagPure RNA Particles | 1 ml | 7 ml | Magnetic Particles |
| DNase I | 600 µl | 4 x 600 µl | DNase I |
| DNase Buffer | 15 ml | 80 ml | Tris/MgCl2 |
| RTL Lysis Buffer | 15 ml | 150 ml | Guanidine Salt |
| Buffer MCB* | 9 ml | 75 ml | Guanidine Salt |
| Buffer MW1* | 13 ml | 110 ml | Guanidine Salt |
| Buffer MW2* | 6 ml | 50 ml | Tris/NaCl |
| RNase Free Water | 5 ml | 60 ml | DEPC-Treated Water |

【Storage conditions and Validity】

MagPure RNA Particles should be stored at 2–8°C upon arrival. DNase I should be stored at -20°C. However, short-term storage (DNase I up to 1 weeks, MagPure RNA Particles up to 8 weeks) at room temperature (15–25°C) does not affect their performance. The remaining kit components can be stored at room temperature (15–25°C) and are stable for at least 18 months under these conditions.

【Preparation before Use】

- Add 17ml (20 Preps) or 140ml (250 Preps) 100% ethanol to the bottle of MW1.
- Add 24ml (20 Preps) or 200ml (250 Preps) 100% ethanol to the bottle of MW2.
- Add 21 ml (20 Preps) or 175 ml (250 Preps) isopropanol to the bottle of MCB.
- Optional) Add 20µl 2-mercaptoethanol (or 2M DTT)per 1mL RTL Lysis Buffer. This mixture can be stored for 2 weeks at room temperature.

A: Sample Prepare

a. **Cells Grown in Suspension (no more than 5 x $10^6$ cells )**
Pellet cells by centrifugation. loosen the cell pellet thoroughly by flicking the tube. Add 500~600µl of RTL Lysis Buffer and vortex vigorously.

b. **Cells Grown in Monolayer ( no more than 5 x $10^6$ cells )**
Lyse cells directly in a culture dish by adding 600µl of RTL Lysis Buffer and passing the cell lysate several times through a blue pipette tip. Always use more RTL Lysis Buffer if in the lysate is too viscous to aspirate with a pipette.

c. **Animal Tissue ( Do not use more than 20 mg Tissue)**
Homogenize no more than 20mg tissue samples in 600µl RTL Lysis Buffer using an appropriate mechanical homogenizer. Alternatively one can pulverize tissue in liquid nitrogen with mortar and pestle and transfer the powder to a clean 1.5 ml microcentrifuge tube and add RTL Lysis Buffer. After lysate, centrifuge at 14,000 x g for 3 minute at room temperature.

d. **Plant Tissue ( Do not use more than 100 mg Tissue)**
Disruption Plant sample by liquid nitrogen and transfer up to 100mg power to 1.5ml Tube.Add 600µl RTL Lysis Buffer to the sample and mix well by vortexing vigorously. Centrifuge at 14,000 x g for 3 minute at room temperature.

e. **Whole Blood (Do not use more than 1.5ml blood)**
Separate the leukocytes cell from 0.5~1.5ml Whole blood. Resuspend the leukocytes pellets completely by 50µl Buffe PBS. Add 450µl of RTL Lysis Buffer and vortex vigorously to lyse.

f. **Trizol/MagZol Regeant (without chloroform extraction):**
Following Trizol/MagZol Reagent protocol, add 600µl MagZol Reagent to lyse the sample. After lysate, centrifuge at 12,000 x g for 10 minutes at 2-8°C.

g. **Trizol/MagZol Regeant (witht chloroform extraction):**
Following Trizol/MagZol Reagent protocol, add 1ml Trizol/MagZol Reagent to lyse the sample. After lysate, add 200µl chloroform to the lysate and centrifuge at 12,000 x g for 15 minutes at 2-8°C.

B: Manual or Liquid Station Protocol:

1. Add 30µl MagPure RNA Particles and 500µl Buffer MCB to the well of 96 well Plate(2.2ml).
2. **Transfer 500µl of the lysate or the supernatants from Sample Prepare into the well of plate. Pipette mix 10 times and then shaking at 700~900rpm for 6 minutes. Place the deep well plate on an Magnet Plate and allow beads to separate for 2 minutes.** With the plate on the Magnet Plate, perform the aspiration, and then discard the supernatant from the plate.
3. **Add 500µl Buffer MW1 and shaking at 900~1200rpm for 1 minute to resuspend the particles.** Place

the tube to the magnetic rack for 1 minute, then remove the supernatant.

4. Leave the plate on the magnetic separation device. Wait 1 minute. Remove residual liquid with a pipettor. Dry the Mag-Pure Particles for an additional 5 minutes.
5. **Add 300µl DNase Mixture (290µl DNase Buffer + 10µl DNase I) to the sample.** Mix by shaking at 600~900rpm for10~15 minutes.
6. **Add 500µl Buffer MCB to the sample and shaking for 5 minutes.** Place the tube to the magnetic rack for 1 minutes, then remove the supernatant.
7. **Add 500µl Buffer MW1 and shaking for 1 minute to resuspend the particles.** Place the tube on the magnetic rack for 1 minutes, then remove the supernatant.
8. **Add 500µl Buffer MW2 and shaking for 1 minute to resuspend the particles.** Place the tube on the magnetic rack for 1 minutes, then remove the supernatant.
9. Repeat step 8 once.
10. Leave the plate on the magnetic separation device. Wait 1 minute and remove residual liquid with a pipettor. Dry the Mag-Pure Particles for an additional 10 minutes.
11. **Add 50~100µl RNase Free Water to sample and mix by shaking for 5 minutes.** Place the tube to the magnetic rack for 3 minutes.
12. Transfer the purified RNA into a new tube and store -20°C.

## C: Auto Purify by KingFisher Flex or similar Extractor isolation:

1. Add the Reagents/sample to the well of f the deep well plate according to the table below.

| Name of the Plate | Pre-loaded reagents | Addition before use |
|---|---|---|
| Sample plate | 500µl Buffer MCB | 500µl cell lysate or lysate supernatant from step A. |
| Wash Plate 1 | 500µl Buffer MW1, Put in 96 magnetic Tip<br>30µl MagPure RNA Particle | |
| DNase | 290µl DNase Buffer and 10µl DNase I | |
| Wash Plate 2 | 500µl Buffer MW1 | |
| Wash Plate 3 | 900µl Buffer MW2 | |
| Elution plate | 50~100µl RNase Free Water | |

2. Place a 96 tip comb for deep well magnets on Wash Plate 1.
3. Start the protocol with the KingFisher Flex and load the plates.
4. **Add 500µl Buffer MCB to the DNase plate during the dispense step.**
5. Place the DNase plate back into the instrument and press Start.
6. After the pause, the protocol will continue to the end.
7. After the run is completed, remove the plates and store the purified total RNA at -20°C.

## 【Basic Information】


**Guangzhou Magen Biotechnology Co., Ltd.**
Room 401, Building D, No. 7, Jingye 3rd Street, Yushu Industrial Park, Guangzhou Hi-Tech Industrial Development Zone, Huangpu District, Guangzhou, 510663, China
www.magen-tec.com 86-20-3855 5004


## 【Explanation of Marks】

| | | | |
|---|---|---|---|
| IVD | The product is used in vitro, please don't swallow | | Please don't reuse it |
| | Validity | | Please read the instruction book carefully before using |
| | Warning, please refer to the instructions in the annex | | Manufacturer |
| 8℃ 2℃ | Temperature scope within which the product is reserve | LOT | Batch number |
| EC REP | European union authorization representativ | | Keep dry |
| | Avoid overexposure to the sun | | Don't use the product when the package is damaged |
| CE | The product meets the basic requirements of European in vitro diagnostic medical devices directive 98/79/EC | | |