Version: FML1715

DNA/RNA Extraction Kit (Magnetic Beads)

[Packaging] 10 preps/kit, 16 preps/kit, 32 preps/kit, 40 preps/kit, 48 preps/kit, 50 preps/kit, 64 preps/kit, 96 preps/kit, 960 preps/kit.

[Intended Use] The DNA/RNA Extraction Kit (Magnetic Beads) is designed for rapid purification of high quality nucleic acid DNA from blood. The treated products are used for clinical *in vitro* test.

[Principle] Nucleic acids DNA from a complex with magnetic beads in a specially formulated buffer. The beads nucleic acids complex is then separated from lysates using a magnet. Purified DNA are eluted when the buffer condition is adjusted. Special magnetic beads technology enables purification of high-quality nucleic acids that are free of proteins, nucleases, and other impurities.

[kt Contents] Lysis solution, rinse solution, eluent, magnetic beads, etc.

[Storage]All Reagents can be stored at room temperature (15–25°C) for 12 months.

[Instrument] Full-automatic or semi-automatic nucleic acid extractor based on the magnetic beads adsorption principle, such as GENFINE Purifier 32 nucleic acid extractor.

[**Sample Requirements**] Blood

[Protocol]

Table 1. Product Application

Type	M103	Y103-G10 / Y103-G10-S	Y103-G30
Applicable method	Manual operation	Automated purification (for GENFINE Purifier M32)	Automated purification (for GENFINE P96)

I. Manual operation

1. Pipette 200 µl blood sample to a 2 ml centrifuge tube.
2. Add 600 µl Buffer GL and 20 µl Proteinase K, heat at 56℃ for 10 min, shake and mix for 2 min every 5 min of heating.
3. Add 40 µl Magnetic beads MS03H, heat at 56℃ for 10min, shake and mix for 2 min every 5 min of heating.

Note: To ensure that the FineMag Particles MS03H are completely resuspended, shake and mix before use.

4. Place the centrifuge tube on the Magnetic Separation Rack for 30 sec until all the magnetic particles are cleared from the solution. Discard the supernatant carefully.
5. Add 700 µl Buffer DW and mix by vortex for 2 min.
6. Place the centrifuge tube on the Magnetic Separation Rack for 30 sec until all the magnetic particles are cleared from the solution. Discard the supernatant carefully.
7. Add 700 µl Buffer DW and mix by vortex for 3 min.
8. Place the centrifuge tube on Magnetic Separation Rack for 30 sec until all the magnetic particles are cleared from the solution. Discard the supernatant carefully.
9. Remove the centrifuge tube from the Magnetic Separation Rack, add 700 µl 75% ethanol (self-provided),mix by vortex for 2 min.

10. Place the centrifuge tube on the Magnetic Separation Rack for 30 sec until all the magnetic particles are cleared from the solution. Discard the supernatant carefully.

11. Place the centrifuge tube on the Magnetic Separation Rack and air dry at the room temperature for 10-15 min.

Note: Residual ethanol may inhibit subsequent enzymatic reactions. Please ensure the residual ethanol is removed completely. However, overdrying should be avoided, since over-dried DNA is difficult to dissolve.

12. Remove the centrifuge tube from the Magnetic Separation Rack, add 80 µl RNase Free ddH_2O, shake and mix, heat at 65℃ for 10 min and shake and mix for 2 min every 5 min of heating.

13. Place the Centrifuge tube on the Magnetic Separation Rack for 1 min until all the magnetic particles are cleared from the solution. Transfer the supernatant containing DNA to a new centrifuge tube and store. It can be stored at 4°C temporarily if it is tested immediately, and stored at -80°C for long-term use.

II. Automated purification (for GENFINE Purifier M32)

1. Take out pre-filled 96-well plates from the box, gently upside down to mix the beads. Carefully remove the seals from pre-filled plates to prevent liquid from spilling.

2. Add 200 µl sample and 20 µl Proteinase K to rows 2/8 of a 96-well plate. Place the 96-well plates and 8-rod combs into the right position of the GENFINE Purifier M32.

3. Select the “Y103-G10” program and start to run on the instrument.

4. At the end of the run, immediately remove 96-well plates from the instrument, then transfer the solution of rows 6 and 12 to the final tube and store.

Table 2. Procedure for GENFINE Purifier M32

Step	Well position	Name	Stay time (s)	Mix time (s)	Magnetic time (s)	Volume (µl)	Mix speed (1-10)	Temperature (℃)
1	1	Binding	0	30	30	400	7	
2	2	Binding	0	1200	30	800	7	85
3	3	Washing	0	180	30	700	7	
4	4	Washing	0	180	30	700	7	
5	5	Washing	0	180	30	700	7	
6	6	Elution	180	600	120	80	7	65
7	5	Discard Beads	0	30		700	7	

III. Automated purification (for GENFINE P96)

1. Take out the pre-packaged deep-well plate and vortex the 4 corners of the 96-well plate of Plate 1 to suspend the magnetic beads.

2. Add 200 µl of sample and 20 µl Proteinase K to each well of Plate 2 (Buffer GL).

Note: The sample needs to be equilibrated to room temperature and run the program within 1h after adding the sample.

3. Put the 96 Tip Comb into the Plate 5 (75% EtOH).

4. Immediately load the remaining plates onto the instrument as prompted.

5. Select the program and start the run.

6. At the end of the run, immediately remove the Plate 6 (RNase Free ddH_2O) from the instrument, then transfer the solution to the final tubes/plate and store.

Note: The purified nucleic acid is ready for immediate use. Alternatively, store the plate at –20°C for long term storage.

Table 3. Procedure for GENFINE P96

Step	Well	Name	Volume (μl)	Temperature		Stay		Position	Shock		Magnetic			
				Value (℃)	ON/OFF	Mode	Time (s)		Time (s)	Strength	Position	Time (s)	Cycle	Mode
1	5	Load												
2	1	Binding	400					90%	30	High	100%	20	2	Step-by-step
3	2	Binding	800	85	ON			90%	1500	High	100%	20	2	Step-by-step
4	3	Washing	700					90%	240	High	100%	20	2	Step-by-step
5	4	Washing	700					90%	240	High	100%	20	2	Step-by-step
6	5	Washing	700					90%	240	High	100%	20	2	Step-by-step
7	5	Elution	700			Stay	180							
8	6	Elution	100	65	ON			90%	900	High	100%	30	4	Step-by-step
9	1	Discard Beads												

[Precautions]

1. Please read the instructions carefully before use and operate in strict accordance with the requirements.
2. The operators can take up the post only after relevant trainings.
3. Note not to cause cross contamination during sample operation.
4. It is normal if there is crystallization in the lysate. Please incubate the lysate at 50~60°C for 30 minutes until the crystallization is completely melted, shake well, and cool to room temperature before use.
5. Failure to follow the instructions will result in inaccurate results
6. Please do not use the product beyond the expiration date, and do not mix the reagent components of different batch numbers.
7. The samples to be tested involved in the kit should be considered as infectious substances, and should be handled and treated according to the requirements of *General Rules for Safety of Microorganism* and *Biomedical Laboratory and Regulations for Management of Medical Wastes*.

[Symbols]

Symbols	Meanings
	Manufacturer
	Authorized representative in the European Community
	*In vitro* diagnostic medical device
	This product fulfills the requirements of the European Directive 98/79 EC for in vitro diagnostic medical devices.
	Catalogue number
	Batch code
	Date of manufacture
	Use-by date
	Temperature limite
	Consult instructions for use
	Keep dry
	Keep away from sunlight
	Do not re-use
	Do not use if package is damaged

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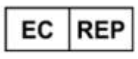

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