Version: FML1705

DNA/RNA Extraction Kit (Magnetic Beads)

[Packaging] 24 preps/kit

[Intended Use] It is suitable for separating and purifying high-quality cell free DNA from from plasma.

[Principle] It is designed for rapid and reliable isolation of high-quality cell free DNA from serum and plasma. The unique magnetic particles technology provides high quality of DNA extraction by changing affinity of magnetic particles. The whole isolation process is safe and convenient, the extracted cell free DNA has high yield, high purity and reliable quality.

[kt Contents] Composed of lysis, Wash，eluent and magnetic beads, etc.

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

[Instrument] Automated purification extractor.

[Sample Requirements] plasma.

[Protocol]

Table 1. Product Application

Type	M107	Y107-G50
Applicable method	Manual Operation	Automated purification (for GENFINE P24)

I. Manual operation

1. Refer to Table 2, select the proper centrifuge tube and add the reagent in order: Proteinase K、Buffer GHP and FineMag Particles K.

Table 2. Refer to the sample volume and add the reagents in the table below

Sample Volume	Proteinase K	Buffer GHP	FineMag Particles K
500 µl	50 µl	750 µl	15 µl
1 ml	100 µl	1.5 ml	20 µl
2 ml	200 µl	3 ml	30 µl
5 ml	500 µl	7.5 ml	75 µl
10 ml	1 ml	15 ml	150 µl

Note: Try to avoid premixing Buffer GHP and Proteinase K, which may easily reduce the activity of Proteinase K or even inactivate it.

2. After mixing the sample and reagents thoroughly, oscillate at 900 rpm for 20 minutes with a constant-temperature metal oscillator to fully combine the magnetic beads and nucleic acid. After incubation, centrifuge briefly to remove droplets on the inner wall of the cap.

Note: Keep mixing well when inverting, otherwise the recovery rate of cell free DNA will decrease.

3. Place the centrifuge tube to a magnetic stand for 2 min to allow magnetic beads precipitate to the tube bottom.

Discard the supernatant carefully by pipet. Remove the centrifuge tube.

4. Add 1 ml Buffer RBP to samples, mix for 1 min by upside down method to make magnetic beads fully suspended. Briefly centrifuge the centrifuge tube to remove drops from inside the lid.

Note: Transfer the bead slurry together to a 1.5 ml centrifuge tube.

5. Place the centrifuge tube to a magnetic stand for 1 min, allowing the magnetic beads to completely clear from the solution. Discard the supernatant carefully by pipet. Remove the centrifuge tube.

6. Add 1 ml 80% ethanol **(Self-preparily and freshly)** to samples, mix for 1 min by upside down method to make magnetic beads fully suspended. Briefly centrifuge the centrifuge tube to remove drops from inside the lid.

7. Place the centrifuge tube to a magnetic stand for 1 min, allowing the magnetic beads to completely clear from the solution. Discard the supernatant carefully by pipet. Remove the centrifuge tube.

8. Repeat Step 6 and 7.

9. Place the centrifuge tube on a magnetic stand, clear the solution as much as possible, and air dry for 5-10 min.

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

10. Remove the centrifuge tube from the magnetic stand. Add 65-100 µl Buffer EB to elute DNA. Mix by pipetting and incubate at 900 rpm and 56°C for 5 min. Briefly centrifuge the centrifuge tube to remove drops from inside the lid.

11. Place the microcentrifuge tube on the magnetic stand for 2 min until all the magnetic beads are cleared from the solution. Transfer the supernatant containing purified DNA to a new collection microcentrifuge tube and store at proper condition.

II. Automated purification (for GENFINE P24)

1. Take out pre-filled 24-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. Transfer 200 µl Proteinase K and 2 ml sample (The sample needs to be equilibrated to room temperature) to Plate 1（Buffer GHP）.

3. Put 24 Tip Comb into Plate 6 (Buffer DP+MK) .

4. Place the 24-well plates into the right position of the GENFINE P24.

5. Select the program“Y107-G50”and start to run on the instrument.

6. At the end of the run, remove the Plate 5 (Buffer EB) from the instrument, then transfer the solution to the final tubes/plate and store.

Table 2. Protocol of"Y107-G50"for P24

Step	Well	Name	Volume (μl)	Temperature		Stay		Position	Shock		Magnetic			
				Value (°C)	ON/OFF	Mode	Time (s)		Time (s)	Strength	Position	Time (s)	Cycle	Mode
1	6	Load	--	--	--	--	--	--	--	--	--	--	--	--
2	6	Binding	1000	--	--	--	--	90%	30	Middle	1	45	1	Step-by-step
3	1	Binding	5000	--	OFF	--	--	100%	1200	Low	1	30	5	Step-by-step
4	2	Washing	1000	--	--	--	--	90%	120	Middle	1	30	2	Step-by-step
5	3	Washing	1000	--	--	--	--	90%	120	Middle	1	30	2	Step-by-step
6	4	Washing	1000	--	--	--	--	90%	60	Middle	1	30	2	Step-by-step
7	4	Elution	1000		OFF	Stay	300	--	--	--	--	--	--	--
8	5	Elution	100	65	ON	--	--	100%	300	Low	1	30	4	Step-by-step
9	6	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]

For research use only, not for use in diagnostic procedures.

Symbols	Meanings
	Manufacturer
EC REP	Authorized representative in the European Community
IVD	*In vitro* diagnostic medical device
CE	This product fulfills the requirements of the European Directive 98/79 EC for in vitro diagnostic medical devices.
REF	Catalogue number
LOT	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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