HCY Nucleic Acid Purification kit Instruction for use

Product Name

Magnetic Bead-Based Nucleic Acid Purification kit

Expected purpose

This kit is suitable for rapid extraction and purification of DNA /RNA nucleic acid from blood, serum, plasma, tissue extract, swab buffer, saliva, cell culture fluid, virus preservation solution etc.
If need RNA only, recommend RNAse-free DNAse I for processing;

Downstream Application

The extracted nucleic acid with high purity and yield can be widely used in scientific research, clinical diagnosis, judicial appraisal etc.

Related Instrument

Working with automatic nucleic acid extractor, extract and purify nucleic acid automatically

Test principle

This kit uses superpara magnetic beads with a unique separation effect and a distinctive buffer system to separate the high quality and high purity nucleic acid from the sample. The special decoration magnetic bead, with a strong affinity for the nucleic acid under certain conditions. When the condition change, release the adsorbed nucleic acid, achieving the rapid separation and purified nucleic acid.

Cat. NO.

CY-F006-50,CY-F006-100,CY-F006-200

Packaging Specification

50 times / box, 100 times / box, 200 times / box

Kit composition

Kit Composition		Cat. NO.	CY-F006-50	CY-F006-100	CY-F006-200
		Specification	50 times / box	100 times / box	200 times / Box
1	CY 1(Lysis Buffer)		30mL/ bottle (1 bottle)	60m L/ bottle (1 bottle)	120m L/ bottle (1 bottle)
2	CY2(magnetic bead binding fluid)		30mL/ bottle (1 bottle)	60mL/ bottle (1 bottle)	120mL/ bottle (1 bottle)
3	CY3(Wash 1)		12mL / bottle (1 bottle)	24mL/ bottle (1 bottle)	48mL / bottle (1 bottle)
4	CY4(Wash 2)		18mL/ bottle (1 bottle)	36mL / bottle (1 bottle)	36mL/ bottles (2 bottles)
5	CY5(Elution buffer)		6mL / bottle (1 bottle)	12mL / bottle (1 bottle)	12mL / bottle (2 bottles)
6	Magnetic bead		0.8mL/ tube (1 tube)	0.8mL / tube (2 tubes)	1.1mL / tube (3 tubes)
7	Protein K lyophilized powder		16mg / tube (1 tube)	16mg / tube (2 tubes)	16mg / tube (3 tubes)
8	Protease K solvent		0.8mL/ tube (1 tube)	0.8mL/ tube (2 tubes)	1.1mL/ tube (3 tubes)

Storage and Validity

Transportation conditions: normal temperature transportation.
Storage conditions: Storage at room temperature, valid for 12 months. To ensure the extraction efficiency of this kit, it is recommended to store magnetic beads and protease K at 2-8°C.
If The protease k lyophilized powder dissolved, recommend to store at 2-8°C or packed at-20°C to avoid repeated freezing and thawing.
If CY 1(Lysis Buffer) has precipitate out, it is normal.please heat and dissolve at 56°C before use.

User's self-provided reagents and instruments

Anhydrous ethanol, magnetic rack, automatic nucleic acid extractor.

Preparation before Use

1.All protease k solvents were added to the test tube containing protease k lyophilized powder and mix well.
2.CY-F006-50 kit, add 18mL anhydrous ethanol to CY 3(Wash 1) , add 42mL anhydrous ethanol to CY4(Wash 2) , and mix well .
3.CY-F006-100 kit, add 36mL anhydrous ethanol to CY 3(Wash 1), add 84mL anhydrous ethanol, to CY4(Wash 2) and mix well
4.CY-F006-200 kit, add 72mL anhydrous ethanol to CY 3(Wash 1) , add 84mL anhydrous ethanol to CY4(Wash 2) and mix well

Manual extraction steps

1. Add 500 μ l CY 1(lysate), 10 μ l proteinase k solution and 500 μ l samples to the 1.5mL centrifuge tube, then bath in 55°C water for 20 minutes;
2. **(Optional step)** 12000rpm centrifuge after 30 ", transferred supernate to the new 1.5mL centrifuge tube;
3. Add 250 μl CY 2(magnetic bead binding fluid), turn it upside down and mix well;
4. Vortex shock mixed the magnetic bead, take 10 μ l magnetic bead to the sample centrifugal tube, vortex oscillation for 30" for fully mixing;
5. Incubated at room temperature for 10 minutes, and mix upside down 3~5 times in this step;
6. Place the centrifugal tube on the magnetic rack for 30", thus that the magnetic bead is absorbed to the tube well , carefully remove the liquid in the tube, and remove the centrifugal tube;
7. Add 600 μ l CY 3(Wash 1) and mix well for 20" to resuspend the magnetic beads;
8. Repeat step 5;
9. Add 600 μ l CY 4(Wash 2) and mix well for 20" to resuspend the magnetic beads;
10. Repeat step 5;
11. Open the tube cap, dry the magnetic beads in the clean working table for 10 minutes, add 50 μ l CY 5(Elution buffer), and vortex blending for 20" to resuspend the magnetic beads;
12. **(Optional step)** bathing at 55°C water and heat for 5 minutes to make the nucleic acid completely fall off from the magnetic beads;
13. Place the centrifuge tube on the magnetic rack for 1 minute,and the magnetic beads absorbed to the tube wall. carefully transferred the tube liquid to the new nucleuclease-free centrifuge tube for subsequent detection and analysis.

For Automatic extraction

Take HCY automatic 96 channel nucleic acid Extractor as an example:

1.Prepare 96 well pre-filled kit before extraction:

Column No. of 96 well plate	Reagent dosage per hole
1/7	
2/8	10ul magnetic beads, 200 μl CY2(magnetic bead binding fluid), 300 μl CY1(lysis buffer), 10 μl protease k(optional)
3/9	600 μl CY3(Wash 1)
4/10	600 μl CY4(Wash 2)
5/11	
6/12	50 μl CY5(Elution Buffer)

2.Add 300μl samples to each hole in column 2 /column 8 ;

3.Automatic extraction Procedure:

Step 1	Name	Number of columns	Mix time	Magnetic suction time	Wait time	Heating or not	Temperature
1	Lysis and adsorption	2/8	300 "	20 "		Yes	60
2	Wash 1	3/9	60 "	20 "		No	
3	Wash 2	4/10	60 "	20 "		No	
4	Elution	6/12	120 "	20 "	60 "	Yes	80
5	Discard magnetic beads	2/8	20 "	20 "		No	

4.After the procedure, carefully absorb the elution in column 6 / 12, and transfer to a new nucleuclease-free centrifugal tube for subsequent detection and analysis.

Product performance indicators

1. Package: No damage, label clear, and no liquid leakage.
2. Colour and clarification degree: Magnetic beads binding liquid, when turbidity status, it' s black mixed liquid. When liquid in layering, upper layer is clear liquid and lower black solid precipitation; Lysis buffer, magnetic bead binding liquid, wash buffer and elution buffer are all clear liquid.
3. Nucleic acid recovery rate: The human genome DNA is recovered at 0.1ng using this kit. Qubit measure shows recovery rate over 90%
4. Precision of the nucleic acid yield: The sample was extracted 6 times with the lot batch, and variable coefficient of the nucleic acid variation is CV <3%.
5.Nuclear acid purity: The kit can effectively isolate and remove impurities like protein, polysaccharides and inorganic salts, and the A260/A280 is stable in the range 1.7-1.9.

Notes

The following are precautions for the kit and must be read carefully before use.

1、The magnetic beads must be fully mixed before use.
2、Before use, confirm that CY 3(Wash 1), CY 4(Wash 2) have add anhydrous ethanol.
3、After adding washing buffer, put on the vortex oscillator fully shock mixed, to ensure that the magnetic bead is completely dispersed suspended state.
4、Recommend to use nucleuclease-free consumable herein.
5、The performance of different brands of nucleic acid extractor is different. If using other brands of nucleic acid extractor, the performance optimization and verification should be carried out first.

Identification and Interpretation

Legend	Content	Legend	Content
	Can not be used twice		Avoid sun
	Avoid the rain		Refer to the use instructions
	Note, refer to the package insert		Validity(valid for 12 months)

Manufacturer Information

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