MagicPure® Cell-Free DNA Kit

Cat. No. EC201

Storage: Magnetic Cell-Free Beads 2-8°C for one year (protect from freezing); others at room temperature (15-25°C) for one year.

Description

This kit lyse samples by enzyme hydrolysis, purify cell-free DNA by specific adsorption of silica magnetic beads. It is suitable for isolating and purifyling high quality cell-free DNA from 0.5-10 ml serum or plasma. The extracted DNA can do PCR, qPCR and NGS. It can be used in magnet beads-based nucleic acid extraction system.

• Simple to operate and fast to extract. Do not need to centrifuge.

• High yield and high purity.

Kit Contents

Component	EC201-01/11 (50 rxns)
Binding Buffer 18 (BB18)	120 ml
Clean Buffer 18 (CB18)	30 ml
Wash Buffer 18 (WB18)	24 ml
Elution Buffer 18 (EB18)	4 ml
Proteinase K (20 mg/ml)	3×1 ml
20% SDS	6 ml
Magnetic Cell-Free Beads	2 ml
Magnetic Stand (16 hole)	1 unit/-

Starting material

• Serum and plasma: 2-8°C for four hours; -80°C for long-term storage.

• Avoid repeated freeze-thaw cycles.

Procedures

Before starting, add 40 ml isopropyl alcohol to Binding Buffer 18. Add 30 ml and 96 ml anhydrous alcohol respectively to Clean Buffer 18 and Wash Buffer 18.

The user need to prepare magnetic stand for 15 ml or 50 ml centrifuge tubes as required.

The magnetic separation need to be done at room temperature. Vortex the magnetic beads before use.

1. Reaction System

Component	Plasma Volume				
	0.5 ml	1 ml	2 ml	4 ml	10 ml
20% SDS	25 µl	50 µl	100 µl	200 µl	500 µl
Plasma sample	0.5 ml	1 ml	2 ml	4 ml	10 ml
Proteinase K	15 µl	30 µl	60 µl	120 µl	300 µl
BB18 (Please check if add isopropyl alcohol before use)	0.75 ml	1.5 ml	3 ml	6 ml	15 ml
Magnetic Cell-Free Beads	10 µl	20 µl	40 µl	80 µl	200 µl

2. Vortex for 15 seconds, incubate at room temperature for 20 minutes. (Mix by inversion 3-5 times).
3. Magnetic separation
   Suggestion: Put the centrifuge tubes on the magnetic stand, twirl left and right gently, reverse the tubes gently 2-3 times when the magnetic beads are closed to tube wall towards magnetic stand, make sure all the beads on the lid aggregate to the tube wall. Then let stand for 2 minutes, the beads will aggregate to the tube wall completely.
4. Discard the supernatant at the opposite side of magnetic beads, do not suck the beads. Take the tubes off the magnetic stand, add 1 ml Clean Buffer 18 (Please check if add anhydrous alcohol before use). Vortex blending for 15 seconds, then do magnetic separation at the well-matched magnetic stand.
   If use 15 ml or 50 ml centrifuge tube, transfer the suspension of CB18 and magnetic beads to a new 1.5 ml centrifuge tube to do magnetic separation. If there remains some beads in the 15 ml or 50 ml centrifuge tube, transfer the supernatant back to the previous tube. Wash the tube and transfer it to 1.5 ml centrifuge tube.
5. Discard the supernatant. Take the tubes off the magnetic stand, add 1 ml Wash Buffer 18 (Please check if add anhydrous alcohol before use). Vortex blending for 15 seconds, then do magnetic separation.
6. Repeat Step 5.
7. Discard the supernatant, including the liquid on the lid. In order to remove the supernatant thoroughly, we suggest the user to use smaller size pipette tips to do this step again.
8. Let stand and air-dry for 5-10 minutes.
9. Add corresponding amount of EB18 according to plasma volume. Please see the data in the below sheet. Vortex bitterly for 5 minutes.

Component	Plasma Volume				
	0.5 ml	1 ml	2 ml	4 ml	10 ml
Elution Buffer 18	20 µl	30 µl	50 µl	75 µl	200 µl

10. Put centrifuge tubes to the magnetic stand. Transfer the liquid except magnetic beads to a 1-1.5 ml centrifuge tube. (Recommend the user to use low nucleic acid adsorption centrifugal tubes, avoid sucking the beads).
11. Store the DNA at -20°C.

Notes

- This kit uses 2 ml plasma as basic counts.
- Avoid repeated freeze-thaw cycles.
- Use germ-free, nucleic-acid-free and nuclease-free centrifuge tubes and pipette tips.
- The component content of cell-free DNA is extremely low, we recommend the user to use low nucleic acid adsorption centrifugal tubes for plasma storage, DNA extraction and DNA storage.
- Vortex blending the magnetic beads before use.

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