DNA purification and recovery kit by magnetic bead method

Project number: M666134

Storage conditions: 2-8° C.

Product Content:

Component	M666134 5ml	M666134 50ml
CMPure	5ml	50ml

Product Introduction

This kit provides a simple, rapid and efficient method for nucleic acid purification. It can be used for selective or non-selective recovery of DNA during second-generation sequencing library construction, as well as purification and recovery of PCR products. After CMPure is mixed with the sample in a certain ratio, the magnetic beads selectively adsorb the nucleic acids. After two rinsing steps, the purity of the eluted DNA is high, and the ratio of A_{260} /A_{280} is between 1.7 and 1.9, and the ratio of A_{260} /A_{230} is usually above 2.0. The DNA purified by this kit is suitable for PCR, Real-TimePCR, sequencing, southernblotting and other experiments.

Kit Description

Sampletype	Typicalyield	Sampletype	Typicalyield
5000bpsegment	Upto 90%	1000bpsegment	Upto 90%
500bpsegmen t	Upto80%	200bpsegment	Upto 70%

Bring your own instruments and reagents

1. Magnetic frame
2. 80% ethanol.
3. Elution solution: BufferEB (10 mMTris-HCl, pH 8.0); deionized water (pH between 7.0 and 8.0).

Pre-experiment Preparation and Important Notes

1. Freezing, centrifugation and sonication can cause irreversible damage to the magnetic beads in CMPure.
2. The magnetic beads in CMPure will gather into clusters after long-term placement, which will reduce the surface area of the beads and lower the recovery rate of the sample, so be sure to mix the beads thoroughly by vortexing and oscillation before use.
3. Prior to use, it is recommended that CMPure be vortex-shocked and mixed and dispensed into 1.5 ml centrifuge tubes, with 1 ml of CMPure dispensed into each tube.
4. This kit is not suitable for the purification and recovery of DNA fragments smaller than 100 bp. If DNA fragments smaller than 100 bp are to be recovered, it is recommended that the amount of CMPure be increased to 4 times the sample volume.

5. CMPure is sensitive to the ion concentration in the DNA solution for selective DNA recovery. Different manufacturers of second-generation sequencing library construction kits obtained after the junction ligation of the DNA solution and PCR amplification products of different ion concentrations, so the use of CMPure for selective recovery of DNA, the dosage of reagents is different.

procedure

1. Vortex-shake the CMPure for 20 seconds to thoroughly mix it into a homogeneous solution.
2. Add purified DNA solution to a 1.5 ml centrifuge tube.
3. Add 2 times the sample volume of CMPure to the centrifuge tube from the previous step, vortex and shake for 5 seconds and let stand at room temperature for 5 minutes.
4. Place the centrifuge tube from the previous step on the magnetic rack until the magnetic beads are fully adsorbed (takes about 5 minutes).
5. Keep the centrifuge tube fixed on the magnetic rack and discard the solution completely, avoiding contact with the magnetic beads during this time.
Continue to hold the centrifuge tube in the magnetic rack and add 250 μl of freshly prepared 80% ethanol to the centrifuge tube. 7. Hold the centrifuge tube in the magnetic rack and discard the ethanol completely after the suspended beads are fully adsorbed.
8. Repeat steps 6-7 twice.
9. Keep the centrifuge tube fixed on a magnetic rack for 10 minutes to allow the ethanol to evaporate completely.
10. Remove the centrifuge tube from the magnetic rack, add 20-100μl of EB (supplied) or deionized water, vortex and oscillate to completely resuspend the magnetic beads in the eluent, and then leave at room temperature for 5 minutes.
11. Place the centrifuge tube on the magnetic rack until the magnetic beads are fully adsorbed (takes about 5 minutes).
12. Transfer the eluate to a new 1.5 ml centrifuge tube. At this point, the magnetic beads can be discarded.

Calculation of Purification Recovery Yield

We recommend calculating the recovery rate from samples before and after purification by agarose electrophoresis. We do not recommend calculating the recovery rate from the light absorption value at 260 nm. This is because single-stranded and double-stranded DNA and dNTP in solution, as well as some impurities before purification, absorb light at 260 nm, which gives a false, inflated DNA concentration when calculating the DNA concentration in the sample before recovery.