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Magnetic Bead DNA Purification Kit (for NGS Size Selection)

Product Number: DNK2508

Shipping and Storage

store at 2-8°C; shipping at room temperature.

Components

Components	DNK2508 5ml	DNK2508 50ml
Magnetic Bead	5ml	50ml

Description

This kit provides a simple, fast and efficient nucleic acid purification method. The product can be used for the selective or non-selective recovery of DNA during the construction of NGS library, as well as the purification and recovery of PCR products.After the Magnetic Bead beads are mixed with the sample in a certain proportion, the magnetic beads selectively adsorb the nucleic acid. After two steps of washing, the eluted DNA is of high purity. The A_{260}/A_{280} ratio is between 1.7-1.9, and the A_{260}/A_{230} ratio is usually above 2.0. The DNA purified by this kit is suitable for PCR, Real-Time PCR, sequencing, southern blotting and other experiments.

Kit Notes

Sample type	Typical yield
5000 bp segment	Up to 90%
1000 bp segment	Up to 90%
500 bp segment	Up to 80%
200 bp segment	Up to 70%

Not included in the kit

1. Magnetic stand.
2. 80% ethanol.
3. Elution Buffer: Buffer EB (10 mM Tris-HCl, pH8.0); ddH_2O (pH between 7.0-8.0).

Preparation before the experiment and important notes

1. Freezing, centrifugation, and ultrasound can cause irreversible damage to the Magnetic Bead beads.
2. Magnetic beads in Magnetic Bead will aggregate into clusters after being placed for a long time, so that the surface area of magnetic beads will be reduced, and the yield of sample recovery will be reduced. Before use, magnetic beads must be thoroughly mixed by vortexing.
3. Before use, it is recommended that the Magnetic Bead beads should be vortexed and aliquoted into 1.5 ml microcentrifuge tubes, each tube containing 1 ml of Magnetic Bead beads.
4. This kit is not suitable for the purification of DNA fragments smaller than 100 bp. If the DNA fragments are smaller than 100 bp, it is recommended to increase the amount of Magnetic Bead to 4 times of the sample volume.
5. For the selective recovery of DNA, Magnetic Bead is more sensitive to the concentration of ions in the DNA solution. Because the concentration of ions in the adaptered DNA solution and the PCR product obtained by the NGS library construction kits from different manufacturers are different, the amount of reagents used varies.

Protocol

1. Vortex Magnetic Bead for 20 seconds to thoroughly mix it into a homogeneous solution.
2. Add the purified DNA solution to a 1.5 ml centrifuge tube.
3. Add two times of the sample volume of Magnetic Bead to the centrifuge tube in the previous step. Vortex for 5 seconds and allow to stand at room temperature for 5 minutes.
4. Place the centrifuge tube from the previous step on the magnetic stand until the beads are fully adsorbed (approximately 5 minutes).
5. Keep the centrifuge tube on the magnetic stand and discard the solution completely, avoiding touch magnetic beads.
6. Continue to hold the tube on the magnetic stand and add 250μl of freshly prepared 80% ethanol to the tube.
7. Keep the centrifuge tube on the magnetic stand. discard the ethanol completely after the suspended magnetic beads are fully absorbed.
8. Repeat step 6-7 twice.
9. Keep the centrifuge tube on the magnetic stand for 10 minutes to completely evaporate the ethanol.
10. Remove the centrifuge tube from the magnetic stand and add 20-100μl of EB (self-prepared) or ddH_2O. After vortexing to completely resuspend the magnetic beads, leave at room temperature for 5 minutes.
11. Place the centrifuge tube from the previous step on the magnetic stand until the beads are fully adsorbed (approximately 5 minutes).
12. Transfer the DNA elution to a new 1.5 ml centrifuge tube. At this point, magnetic beads can be discarded

Calculation of purification recovery rate

We suggest calculating the recovery rate of samples before and after purification by agarose electrophoresis. We do not recommend calculating the recovery rate based on the light absorption value at 260 nm. Because single stranded, double stranded DNA, dNTP, and some impurities before purification in the solution have light absorption at 260 nm, a false and falsely high DNA concentration will be obtained when calculating the DNA concentration in the sample before recovery.