DNA Purification Magnetic Beads

Cat. No. G950, G951

Store at 4°C.

Product Component	Quantity	Cat. No.
DNA Purification Magnetic Beads	5 ml (1.25 ml x 4)	G950
DNA Purification Magnetic Beads	25 ml	G951

Product Description

abm's DNA Purification Magnetic Beads are carboxyl-coated magnetic particles that reversibly bind DNA for rapid, high-efficiency purification. They remove excess primers, adapter dimers, salts, and enzymes from a wide range of DNA reactions, making them ideal for PCR cleanup, NGS library preparation, and DNA concentration. Flexible sample-to-bead ratios also enable precise, customizable size selection of DNA fragments.

Key Features

- Cost effective alternative to other commercial bead products (e.g. Ampure XP)
- Rapid and simple protocol with no centrifuge required
- Low salt carryover

Protocol

The protocol below is optimized for PCR purification using a 1.8X bead-to-sample ratio (e.g. 90 µl beads for a 50 µl sample). The bead ratio may be adjusted for DNA size selection. For best results, use a minimum sample volume of 20 µl. Samples >100 µl should be purified either in multiple wells of a PCR plate or in a 1.5 ml microcentrifuge tube with a compatible magnetic separation rack.

Additional Materials Required (not included)

- Freshly prepared 70% ethanol
- Nuclease-free water or TE Buffer (10 mM Tris, 1 mM EDTA, pH 8.0)
- Magnetic separation rack

1. Remove DNA Purification Magnetic Beads from 4°C and incubate at room temperature for 30 min.

2. Vortex the DNA Purification Magnetic Beads thoroughly for 30 s.

3. Add DNA Purification Magnetic Beads to sample at the desired ratio. For a standard PCR purification reaction use a 1.8X bead-to-sample ratio (e.g. 90 µl beads for a 50 µl sample) and pipette ten times to thoroughly mix. Incubate at room temperature for 3-5min.
   •If sample is <20 µl, increase the volume to 20 µl by adding an appropriate amount of nuclease-free water.

4. Place the plate or tube onto magnetic rack for 5 min or until the solution becomes clear.

5. Keep the plate or tube on the magnetic rack; carefully remove the supernatant by pipette and discard.

6. Keep the plate or tube on the magnetic rack; add 200 µl of freshly prepared 70% ethanol. Dispense the liquid onto the opposite side of the tube to avoid disturbing the beads. Incubate 30 s and then remove the supernatant by pipette. Repeat for a total of two washes.

7. Keep the plate or tube on the magnetic rack; remove residual ethanol by pipette and then open caps to air dry for 2-5 min. Monitor the appearance of the beads.
   •Beads are ready for elution when they appear "matte." Beads that appear "shiny" still contain residual ethanol; beads that appear "cracked" have been over-dried. The latter two scenarios will result in contamination and reduced yield.

8. Add 15-50 µl of nuclease-free water or TE Buffer to the DNA Purification Magnetic Beads and remove the plate or tube from the magnetic rack. Pipette the mixture ten times to thoroughly resuspend. Incubate at room temperature for 1min.

9. Place the plate or tube on the magnetic rack for 2-5 min or until the solution becomes clear. Carefully remove the supernatant by pipette and transfer into a new sterile tube.
   •Ensure no bead carry-over. If beads become dislodged, simply mix the sample again and place the plate or tube back onto the magnetic rack for separation.

10. The purified DNA is ready for downstream applications or long term storage at -20°C.

General Notes

- Store tightly sealed at 4°C upon arrival. Do not freeze.
- Beads appear brown and may settle during storage. Once thoroughly vortexed it should appear homogenous and consistent in colour.
- Ensure beads come to room temperature (20-25°C) before use; using or storing beads at the incorrect temperature will result in lower yield and difficulty with handling.

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