NGS DNA Clean Beads

NGS DNA Clean Beads are based on super paramagnetic beads with high binding capacity, rapid magnetic response, and low sedimentation rate. Combined with an optimized buffer system, they can recover nucleic acid fragments of different molecular weights in a magnetic bead suspension with a specific ratio. This product is applicable to DNA and RNA library construction kits of various brands, with high recovery efficiency and purity for DNA purification. Its operation method, purification, and fragment screening effect are consistent with Beckman AMPure XP. It is suitable for manual operation and high-throughput operation on automated work station, including manual experiments and automated liquid workstations.

【Scope of Application】

Suitable for DNA or RNA library construction.

【Kit Components】

Component	SWM201-01	SWM201-02	SWM201-03
NGS DNA Clean Beads	5mL	60 mL	450 mL

Store at 2-8℃

Avoid freezing !

【Usage Method】

1. Self-prepared Reagents and Equipment

Magnetic stand and vortex mixer

80% (V/V) ethanol solution, 10 mM Tris-HCl (pH 8.0) or ultra pure water

2. Instructions for DNA Purification Operation

（1）Take out the magnetic bead solution from 2-8℃ for more than 30 minutes in advance and let it stand to room temperature.

（2） Invert or vortex to fully mix the magnetic bead solution. Pipette a certain volume of magnetic bead solution (**specific volume depends on sample conditions, refers to Table 1**) into the DNA sample. Pipette up and down 10 times or vortex for 30 seconds to mix, then keep it at room temperature for 5 minutes to allow DNA to bind to the magnetic beads.

（3） Place the sample on the magnetic stand. After the solution is clear, carefully remove the supernatant. Keep the sample on the magnetic stand all the time, add 200 µl of freshly prepared 80% ethanol to wash the magnetic beads. Keep it in room temperature for 30 seconds, then remove the supernatant with a pipette carefully.

（4） Repeat step 3 once, with a total of two rinses. (Try to remove the washing solution as thoroughly as possible after the Twice washing.)

（5） Keep the sample on the magnetic stand, open the lid and dry the magnetic beads at room temperature for about 3-5 minutes until there is no reflection on the surface of the beads (cracks on the surface indicate over-drying).

（6） Take the sample off the magnetic stand, add an appropriate amount of 10 mM Tris-HCl (pH 8.0) or ultra pure water, vortex to mix, and let stand at room temperature for 2 minutes.

（7）Place the sample on the magnetic stand until the solution is clear. Transfer the supernatant to a new centrifuge tube, which can be directly used for subsequent research or stored long-term in a -20℃ refrigerator.

Table 1 Reference for DNA Purification Conditions

Size Range of Purified Product Fragments	Reference Purification Magnetic Bead Ratio
>1kb	**0.5x**
>500bp	**0.7x**
>400bp	**0.8x**
>300bp	**1.0x**
>200bp	**1.2x**
>100bp	**1.5-2.2x**

Note: Magnetic beads dosage = sample volume × ratio. For example, 50 µL sample × 0.7 = 35 µL magnetic beads suspension.

3. Instructions for DNA Size Selection Operation:

（1） Take out the magnetic bead solution from 2-8℃ more than 30 minutes before beginning and Keep it equilibration to room temperature.

（2） Vortex thoroughly the magnetic beads solution. Pipette an appropriate volume of magnetic bead solution (for the first round of Selection, refer to Table 2) into the processed DNA sample. Pipette up and down 10 times or vortex for 30 seconds to mix, then let stand at room temperature for 5 minutes to allow DNA to bind to the magnetic beads.

（3） Place the sample on the magnetic stand. After the solution is clear, carefully aspirate the supernatant into a new nuclease-free centrifuge tube. Add an appropriate amount of magnetic bead solution (for the second round of Selection, refer to Table 2), pipette up and down 10 times or vortex for 30 seconds to mix, and let stand at room temperature for 5 minutes to allow DNA to bind to the magnetic beads.

（4） Place the sample on the magnetic stand until the solution is clear, then carefully remove the supernatant. Keep the sample on the magnetic stand, add 200 µl of freshly prepared 80% ethanol to rinse the magnetic beads. Let stand at room temperature for 30 seconds, then aspirate the supernatant with a pipette.

（5） Repeat step 4 once, with a total of twice rinses (try to remove the washing solution as thoroughly as possible after the twice).

（6） Keep the sample on the magnetic stand, open the lid and dry the magnetic beads at room temperature for about 3-5 minutes until there is no reflection on the surface of the beads (cracks on the surface indicate over-drying).

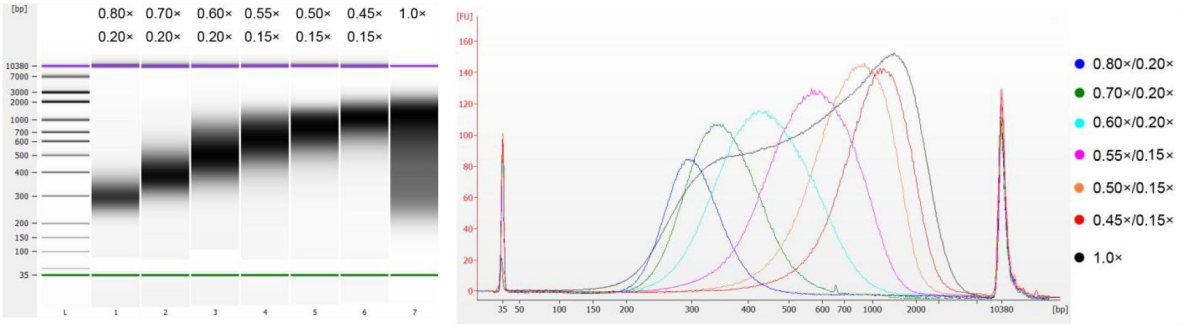
（7） Take the sample off the magnetic stand, add an appropriate amount of 10 mM Tris-HCl (pH 8.0) or ultra pure water, vortex to mix, and let stand at room temperature for 2 minutes.

（8）Place the sample on the magnetic stand until the solution is clear. Transfer the supernatant to a new centrifuge tube, which can be directly used for subsequent research or stored long-term in a -20℃ refrigerator.

Table 2 Reference for DNA Fragment Selection Conditions

Size Range of Sorted Product Fragments	100-200bp	200-300bp	300-400bp	400-500bp	400-700bp
First Purification Ratio	1.0x	0.7x	0.6x	0.5x	0.45x
Second Purification Ratio	0.3x	0.2x	0.2x	0.15x	0.15x

Note: Magnetic bead dosage = sample volume × ratio; for example, for a 50 µL sample, the magnetic bead dosage for the first purification = 50 µL sample × 1.0 = 50 µL magnetic bead suspension, and the magnetic bead dosage for the second purification = 50 µL sample × 0.3 = 15 µL magnetic bead suspension.



【Precautions】

（1） Take out the magnetic beads from 2-8℃ about half an hour in advance and let them equilibrate to room temperature to ensure the DNA recovery rate.

（2） Before use, vortex or invert thoroughly to ensure mixing.

（2）When washing with 80% ethanol, keep the sample tube on the magnetic stand without disturbing the magnetic beads. When air-drying, avoid over-drying the beads. If the beads show cracks, it indicates over-drying, and the DNA elution efficiency will decrease.

【Contact Information】

Company: Guangzhou Surbiopure Biotechnology Co.,Ltd.

Address: 4th Floor,Building U6, No.16 Lianpu Street, Huangpu District, Guangzhou City, Guangdong Province, China

Website: www.surbiopure.com

Production&Expiration Dates: See Label