Xpert Purification SPRI Magnetic Beads

GK19.0005 (5ml) | GK19.0025 (25ml) | GK19.0060 (60ml)

(FOR RESEARCH ONLY)

Product:

Xpert Purification SPRI (Solid Phase Reversible Immobilization) Magnetic Beads consists of paramagnetic particles coated with carboxyl groups that reversibly bind DNA. The magnetic beads are supplied in a buffer that has been optimized in order to selectively bind DNA fragments of 100bp and larger. Primers, primer dimers, dNTPs, enzymes, excess salts, and other impurities can be removed quickly and efficiently by a simple washing procedure. Because this purification method does not require centrifugation or vacuum filtration, it can be readily adapted to 96-well or 384-well microplate automation platforms. Moreover, SPRI beads can be seamlessly integrated into NGS Library preparation workflows.

Contents:

Product	GK19.0005	GK19.0025	GK19.0060
Xpert Purification SPRI Magnetic Beads	5 ml	25 ml	60 ml

GK19.0005 is sufficient for the purifications of 139 samples of 20µl or 556 samples of 5µl.
GK19.0025 is sufficient for the purifications of 695 samples of 20µl or 2780 samples of 5µl.
GK19.0060 is sufficient for the purifications of 1666 samples of 20µl or 6667 samples of 5µl.

Applications:

PCR clean-up, Cloning, Fragment Analysis, Genotyping, High-throughput, NGS Library preparation, and other downstream applications requiring highly purified DNA.

Storage:

Store tightly sealed at 2 to 8ºC, protected from light, for up to 1 year. DO NOT freeze.

Basic Protocol

This basic protocol for PCR purification using either 96-well or 384-well microplates is based on a beads to DNA ratio of 1.8 (e.g. 36µl of beads per 20µl of sample), however, it can easily be adapted for different sample volumes and/or other ratios for size selection. For samples larger than 100µl, it is recommended to split the sample into more wells or use a 1.5-ml microcentrifuge tube with a corresponding magnetic separation rack.

Prior to use

Ensure that Xpert Purification SPRI Magnetic Beads have been warmed up to room temperature (~30 min). Prepare sufficient 70% ethanol for the washing steps. Note that 70% ethanol is hygroscopic and should therefore be prepared freshly.
Immediately before use, resuspend any SPRI beads that may have settled by shaking the bottle vigorously. In case of processing large amounts of samples, repeat shaking regularly.

DNA Purification

1. Add Xpert Purification SPRI Magnetic Beads to the DNA samples according to the tables below. For other volumes, simply modify proportionally using a beads to DNA ratio of 1.8

96-well microplate	
Sample (µl)	SPRI beads (µl)
10	18
20	36
25	45
50	90
100	180

384-well microplate	
Sample (µl)	SPRI beads (µl)
5	9
7	12.6
10	18
12.5	22.5
14	25

2. Mix thoroughly to a homogenous appearance by pipetting up and down the entire mixture 10 times. Allow for optimal DNA binding by incubation at room temperature for 5 minutes.
3. In order to separate the SPRI beads from the solution, place the microplate onto a magnetic separation rack for 5 minutes (Ensure the solution has becomes clear before proceeding to step 4).

   During steps 4 to 8 maintain the microplate on the magnetic separation rack at all times.
4. Carefully aspirate off the cleared solution and discard. Avoid disturbing the SPRI beads.
5. Dispense 70% ethanol to each well: 200µl/well in case of a 96-well plate or 30µl/well in case of a 384-well plate.
6. Incubate at room temperature for 30 seconds.
7. Carefully aspirate off the ethanol and discard. Avoid disturbing the SPRI beads.
8. Repeat steps 5-7 once, then allow the plate to air-dry for 3-5 minutes to remove any residual ethanol.

9. Remove the microplate from the magnetic rack and elute DNA with 10-50µl/well (as desired) of elution buffer (e.g. nuclease-free water, TE, 10mM Tris-HCl pH 8.0 or 10mM Tris-acetate pH 8.0).
10. Mix thoroughly by pipetting up and down the entire mixture 10 times.
11. Incubate at room temperature for 2-5 minutes.
12. Place the microplate back onto the magnetic separation rack for 5 minutes.
13. Carefully transfer the eluent to a new plate. In case of carryover of SPRI-beads, repeat step 12 and transfer into another new plate (or tube).
14. Store purified DNA at -20ºC or proceed with downstream application.