MCLAB
Molecular Cloning Laboratories

User Manual

Version 1.0

Product name: MCMag PCR Purification Kit

Cat #: MCPP-5, MCPP-60, MCPP-450

Description

The MCMag PCR purification system utilizes solid-phase reversible immobilization (SPRI) paramagnetic bead technology for PCR amplicon purification. The MCMag beads are pre-formulated with an optimized buffer to selectively bind DNA fragments of 100 bp and larger. Excess salts, enzymes, primers and nucleotides can be removed through a simple washing procedure. The MCMag PCR Purification system is fully adaptable to automation.

Applications

- PCR
- Sequencing
- Fragment Analysis
- Genotyping
- Cloning
- Primer Walking

Material Supplied

- MCMag PCR Purification beads
  - Store at 4°C upon arrival, for up to 18 months
  - Shake the reagent well to a homogenous appearance before use

Specifications

Table 1. Available product sizes

MCMag PCR Purification	Catalog Number
5 mL	MCPP-5
60 mL	MCPP-60
450 mL	MCPP-450

Table 2. Number of PCR reactions purified with 96- and 384-well formats

	Product Size		
PCR reaction volume (µL) 96-well format	5 mL	60 mL	450 mL
10	278 rxns	3332 rxns	25000 rxns
20	139 rxns	1666 rxns	12500 rxns
50	56 rxns	667 rxns	5000 rxns
100	28 rxns	334 rxns	2500 rxns
PCR reaction volume (µL) 384-well format			
5	556 rxns	6667 rxns	50000 rxns
7	397 rxns	4762 rxns	35714 rxns
10	278 rxns	3333 rxns	20000 rxns
14	198 rxns	2381 rxns	17857 rxns

Materials Not Supplied

- Reaction Plate
- McBead Magnetic Plate
- Plate Seals, Adhesive or Heat
- Wash Solution (70% ethanol)
- Elution Buffer
  - Water
  - Tris-Acetate (10 mM pH 8.0)
  - TE Buffer (10 mM Tris-Acetate pH 8.0, 1 mM EDTA

Procedure

1. Determine whether the sample sizes are sufficient for the intended plates.
2. Shake the McMag PCR Purification bottle well to fully resuspend the beads and add accordingly to the sample reaction shown in table 3.
   (Volume McMag per reaction) = 1.8 x (Reaction Volume)

Table 3. McMag to Sample Reaction Volume Chart

96-well Format

Sample Reaction Volume (µL)	McMag Volume (µL)
10	18
20	36
50	90
100	180

384-well Format

Sample Reaction Volume (µL)	McMag Volume (µL)
5	9
7	12.6
10	18
14	25

3. Pipette mix the sample to a homogenous appearance and incubate for 5 minutes at room temperature.
   NOTE The reaction plate should stay on the Magnet Plate for steps 4-7.
4. Place the reaction plate onto a Magnet Plate for 3 minutes to separate the bead particles from the solution or until the solution becomes clear.
5. Aspirate the cleared solution while the reaction plate is on the Magnet Plate.
   NOTE Leave 5 µL of the supernatant behind in the original plate so that the beads are not drawn out.
6. Dispense 200 µL of freshly prepared 70% ethanol to each well of the reaction plate for the 96 well plate format; **or** 30 µL of freshly prepared 70% ethanol to each well of the reaction plate for the 384 well plate format.
7. Incubate for 30 seconds and fully remove the ethanol.
   NOTE Dry time is optional to ensure all trace of ethanol is removed. Elution efficiency will significantly decrease if the beads are over dried.
8. Remove the reaction plate from the Magnet Plate and add 40 µL for a **96 well plate or** 30 µL for a **384 well plate** of the elution buffer to each well. Pipette mix 10 times and incubate for 2 minutes.
9. Place the reaction plate onto the Magnet Plate to separate the beads from the solution.
10. Transfer the eluate to a new plate.