QuickStep™*2* PCR Purification Kit

Product	Catalog #	Purifications
QuickStep***2*** PCR Purification Kit (36 cartridges)	33617	36
QuickStep***2*** PCR Purification Kit (108 cartridges)	92159	108

Description

The QuickStep***2*** PCR Purification Kit delivers highly purified DNA that can be immediately used for further amplification, cloning and sequencing reactions. The kit consists of two purifying reagents: an improved patented **SOPE™** (**S**olid-phase **O**ligo/**P**rotein **E**limination) Resin that binds primers, ssDNA, enzymes, and other proteins; and the PERFORMA® Gel Filtration Cartridge that eliminates up to 99% of salts, buffers, dNTPs, and other small molecules. The cartridge is prepacked with the matrix fully hydrated in water. Best results are obtained when using PCR reaction volumes between 20-50 µl.

Kit Components	33617	92159
SOPE Resin	0.75 ml (PN 4050172)	1.5 ml (2 x PN 4050172)
Performa Gel Filtration Cartridges	36 carts. (PN 4050167)	108 carts. (3 x PN 4050167)
1.5-ml Microcentrifuge Tubes	36 tubes (PN 4050090)	108 tubes (PN 4050087)

Equipment and Materials Required

1. Variable speed centrifuge (benchtop or floor model) capable of 850 x g.
2. Carriers for microcentrifuge tubes.

Storage Condition

Store at +4ºC. Do not freeze.

Quality Control

Tested for DNA recovery, primer, protein and salt removal. DNA recovered is tested to assure functionality in sequencing reactions.

Recommended Protocol

1. Add deionized water to PCR reactions of <20 µl so that the final volume is 20 µl.
2. Briefly vortex the SOPE Resin to mix.
3. Add 1/5 volume (relative to the volume of the PCR reaction) of SOPE Resin directly to the PCR reaction mixture[1] as in the table below.

SOPE Volume	Reaction Volume
4 µl	20 µl
6 µl	30 µl
8 µl	40 µl
10 µl	50 µl

3. Mix well. Let the suspension stand at room temperature while preparing the Performa Gel Filtration Cartridge.
4. Centrifuge a Performa Gel Filtration Cartridge for 3 minutes at 750 *x g*. Transfer the cartridge to a clean microcentrifuge tube.
   - For clean-up of PCR reactions between 10-20 µl, yield can be further improved by changing the spinning conditions to 850 *x g* for 3 minutes.
   - Note: See "Additional Notes" for determination of RPM from RCF or visit our website at www.edgebio.com and click on Technical Support.
5. Transfer the SOPE/PCR reaction mixture to the prepared Performa Gel Filtration Cartridge.
   - For optimal performance, place the sample in the center of the gel bed surface.
6. Centrifuge for 2 minutes at 750 *x g*. Retain eluates.
   - For clean-up of PCR reactions between 10-20 µl, yield can be further improved by changing the spinning conditions to 850 *x g* for 3 minutes.

Additional Notes

Conversion of RCF to RPM Calculation:

An accurate determination of the centrifugation speed is very important. The relative centrifugal force (RCF) specified in the protocol is converted to revolutions per minute (RPM) using the following formula:

$$RCF = 1.12\, r \left(\frac{RPM}{1000} \right)^2$$

The radius, r, is equal to the distance in millimeters between the axis of rotation and the bottom of the gel bed when the plate is placed in the plate carrier in the centrifuge bucket.

After measuring the radius for the specific centrifuge and accessories to be used, the proper RPM setting is calculated as follows:

$$RPM = 1000 \sqrt{\frac{RCF}{1.12\, r}}$$

To achieve RCF = 850 *x g*:

$$RPM = 27{,}549 \sqrt{\frac{1}{r}}$$

To achieve RCF = 750 *x g*:

$$RPM = 25{,}877 \sqrt{\frac{1}{r}}$$