

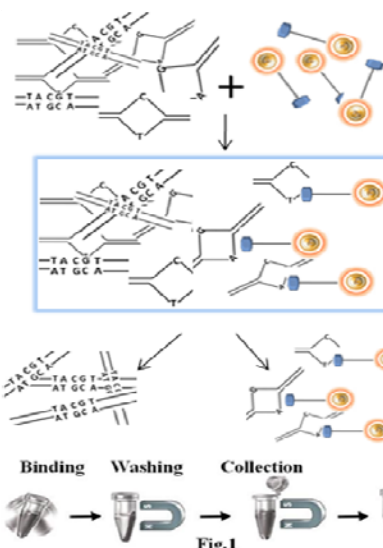
BcMag™ Quick Gene Mutation Finder Magnetic Beads

Introduction

BcMag™ Quick Gene mutationFinder Magnetic Beads are specifically designed for quick and efficient one-step isolation of Gene mutation with our proprietary magnetic beads from PCR products or amplified genomic DNA. This magnetic beads-based kit does not require laborious repeat of pipetting and centrifugation (Fig.1). The Beads work best for DNA fragments between 100bp to 600bp.

Feature and Benefits

- Quick, Easy and one-step high-throughput procedures; eliminates columns or filters, or laborious repeat pipetting or centrifugation (Fig.1)
- Find DNA mutation in high efficient one-step procedure
- Scalable - easily adjusts for sample size and automation
- Reproducible results



Product specificities	
Composition	Silica-coated iron oxide
Bead Size	1µm diameter
Number of Beads	~1.7 x 10 ⁸ beads/mg
Surface Area	~100 m ² /g
Magnetization	~40 EMU/g
Type of Magnetization	Superparamagnetic
Concentration	20 mg/ml (8 mM MgCl ₂ , 50 mM, NaCl, 10 mM Tris, pH 8, 50% glycerol)
Storage	Ship at Room temperature Upon receipt store at -20°C

Protocol for isolation of Gene Mutation

Note: This protocol can be scaled up or down based on sample volume

A. Materials Required

- Binding/Wash Buffer; 8 mM MgCl₂, 50 mM, NaCl, 10 mM Tris, pH 8
- **Magnetic Separator (for manual operation):** Based on sample volume, user can choose one of the following magnetic Separators: BcMag separator-2 for holding two individual 1.5 ml centrifuge tubes (Cat.# MS-01); BcMag separator-6 for holding six individual 1.5 ml centrifuge tubes (Cat.# MS-02); BcMag separator-24 for holding twenty-four individual 1.5-2.0 ml centrifuge tubes (Cat.# MS-03); BcMag separator-50 for holding one 50 ml centrifuge tube, or one 15 ml centrifuge tube and four individual 1.5 ml centrifuge tubes (Cat.# MS-04); BcMag separator-96 for holding one 96-well ELISA plate (Cat.# MS-05).

B. Procedure

1. Assemble the following components and add to a sterile centrifuge tube on ice:

x µl 50-100 ng DNA
1 µl 10x Binding/Wash buffer
y µl d₂H₂O

10 µl total volume



2. Denature DNA by heating at 94°C for 5 minutes. Slowly bring down the temperature to 50°C over the course of 20 minutes so that the DNA will be reannealed to form double strand DNA again. If there are heterozygotes at particular sites of the DNA, mismatches may lead to the formation of heteroduplex.
3. Place the tube on ice.
4. Shake the bottle to completely resuspend the Magnetic Beads and transfer 10 µl of well-suspended beads to a centrifuge tube.
5. Place the tube on a magnetic separator for 1 minute. Remove the supernatant while the tube remains on the separator. Remove the tube from the separator and wash the beads with 100µl 1x Binding/Wash buffer by pipetting. Place the tube on the magnetic separator for 1 minute. Remove the supernatant while the tube remains on the separator.
6. Repeat step 5 two times
7. Resuspend the beads with 10µl 1x Binding/Wash buffer by pipetting.
8. Add DNA solution from step 1, mix well by pipetting and incubate at 60°C for 20 minutes. (**Note: Resuspend the beads by pipetting every 5 minutes**)
9. Place the tube on a magnetic separator for 1 minute. Remove the supernatant while the tube remains on the separator (Note: ***The supernatant does not contain Gene mutation and may be used for other applications. In this case, transfer the supernatant to a new tube***). Remove the tube from the separator and wash the beads with 100µl Binding/Wash buffer by pipetting. Place the tube on the magnetic separator for 1 minute. Remove the supernatant while the tube remains on the separator.
10. Repeat step 9 for two times. The Gene mutation attached to the magnetic beads is ready for detection or other applications.

Note: For some more complex heteroduplex DNA, it may be necessary to repeat the entire procedure three times in order to catch all heteroduplex DNA.