



MagVigen™ DNA Select Nanoparticles

Cat # 61001-500

Product Description

MagVigen™ DNA Select nanoparticles are ideal for DNA purification. MagVigen™ DNA Select nanoparticles feature efficient recovery of double-stranded and single-stranded DNA. DNA products are captured by MagVigen™ DNA Select nanoparticles following a short incubation. The generated nanoparticle-oligo complex can be separated from the rest of the sample by magnet. The retained genomic material can be eluted from the nanoparticles using an elution buffer.

MagVigen™ DNA Select nanoparticles enable the purification of DNA products from salts and other contaminants from assay samples, e.g. cell lysate. The purified DNA products can be further analyzed by gel electrophoresis, PCR quantification and sequencing.

Product Contents

- MagVigen™ DNA Select nanoparticles
- Capture Solution for DNA ≥ 500 bp
- Elution Buffer

All materials should be stored at 4°C up to 6 months.

Protocol

Materials Needed

70% ethanol

Note:

The amount of nanoparticles needed for efficient DNA capture depends on the DNA concentration in the starting material.

In general, use 1X-4X volume of MagVigen™ DNA Select nanoparticles per 1X volume of DNA sample.

Example: If the DNA-containing solution has 20ul volume, then use 20-80ul of MagVigen™ DNA Select nanoparticles for capture.

Important: Always resuspend nanoparticles in fresh Capture Solution before usage.

Size selection:

Capture Solution 500: Recommended for DNA ≥ 500 bp

DNA Capture

1. Remove MagVigen™ DNA Select nanoparticles from storage and bring them to room temperature.
2. Vortex MagVigen™ DNA Select nanoparticles for 10-20 seconds before use.

3. Remove 4X volume of MagVigen™ DNA Select nanoparticles and put into a clean 1.5ml reaction tube.
4. Collect MagVigen™ DNA Select nanoparticles using magnet and remove the supernatant.
Note: A clear precipitate containing dark brown colored nanoparticles should become visible on the side of the micro-centrifuge tube.
5. For every **20ul DNA sample**, resuspend the nanoparticles in **30ul Capture Solution 500**.

Note: A volume ratio of 20:30 for DNA : Capture Solution must be followed in order to separate DNA ≥ 500 bp.

6. Add DNA sample to MagVigen™ DNA Select nanoparticles.
7. Vortex or pipette the reaction solution to mix thoroughly.
Note: It is ideal not to introduce bubbles during the capture reaction.
8. Incubate the MagVigen™ DNA Select nanoparticles-DNA reaction at room temperature for 15-30 minutes.
9. After incubation, use the magnet to separate the DNA-captured nanoparticles from the solution.
10. Carefully remove the supernatant with a pipette, taking care not to disturb the DNA-captured nanoparticle pellet.
11. Keeping the magnet in place, wash the DNA-captured nanoparticle pellet by adding 100ul freshly prepared 70% ethanol. Let stand for 30 seconds-1 minute.
Note: Adjust the volume of ethanol as needed to sufficiently cover the DNA-captured nanoparticle pellet.
12. Remove and discard the ethanol.
13. Repeat steps 11-12, performing a total of two washes.
14. Allow the sample to air dry at room temperature for 5 minutes.
Note: Time will vary depending on the reaction volume. Try not to allow pellet to over-dry and crack. This could affect the recovery.

DNA Elution

15. Elute the captured DNA from the nanoparticles by adding 20ul of the Elution Buffer.
Note: The volume of the Elution Buffer can be adjusted as needed.
16. Gently pipette to mix well and incubate for 5-10 minute at room temperature.
Note: It is ideal not to introduce bubbles during the elution reaction.
17. Separate the nanoparticles from the eluted DNA with magnet.
18. Transfer the supernatant containing the DNA products to a clean tube. The purified DNA is ready to use for subsequent evaluation.

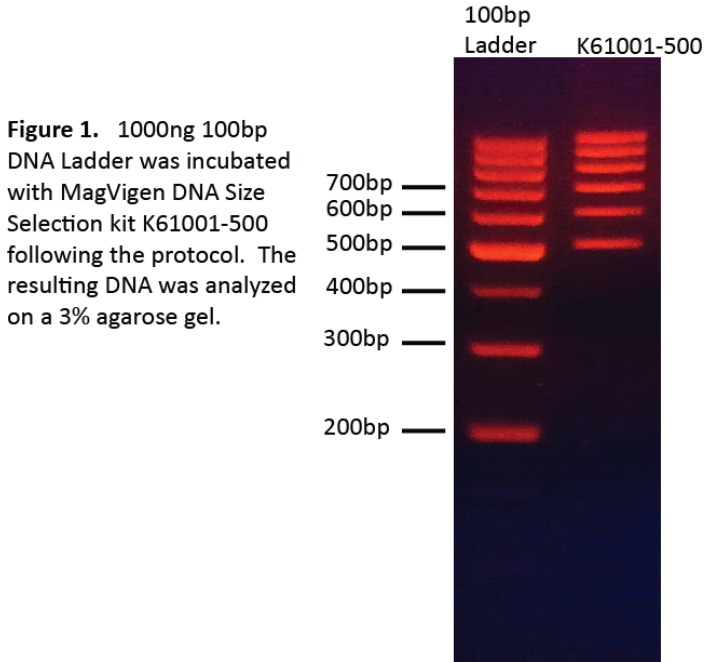


Figure 1. 1000ng 100bp DNA Ladder was incubated with MagVigen DNA Size Selection kit K61001-500 following the protocol. The resulting DNA was analyzed on a 3% agarose gel.