MagVigen™ Whole Blood, PBMC or Cell Genomic DNA Extraction Kit

Cat # K61010

Product Contents

• MagVigen™ DNA Capture Nanoparticles
• Lysis buffer
• Wash buffer
• Elution buffer
• Proteinase K solution

Materials Needed but Not Included

- Magnetic Rack (NVIGEN Cat# A20006)
- Isopropanol (Molecular Biology Grade)
- Ethanol (200 Proof)
- PBS

Protocols

Note:

- *Prepare the Wash Buffer solution:*
  Add 450 µl of Isopropanol per 550 µl of the Wash Buffer stock to make the wash buffer.

- *Vortex beads well before use.*

- *The following protocol uses 150 µl as extraction starting volume. For other volumes, please scale the reagents use in each step proportionally.*

1. Transfer 150 µl of sample to a 1.5-ml Eppendorf tube. If the sample volume is less, add PBS to make up the volume. For whole blood samples, i.e., start with 60 µl or 75 µl sample and dilute with equal volume of PBS.

2. Add 5 µl of proteinase K solution, add 150 µl Cell Lysis buffer. Gently mix well and incubate for 30 min at 55°C.

3. Add 5 µl of MagVigen™ DNA Capture nanoparticles to the lysis buffer. Vortex to mix well. Add 300 µl of Isopropanol to the lysis reaction, vortex to mix. Incubate for 20 min at room temperature.

4. Put the sample tube on a magnetic rack to pellet the beads until the solution is clear (~5min). Slowly remove and discard the supernatant. Be careful not to take any beads, remove as much as solution as possible.

5. Take sample tube off magnet, add 150 µl Wash Buffer. Mix by pipetting or vertexing. Briefly spin down to bring solution to bottom of the tube. Pellet the beads on magnetic rack until solution is clear (about 1-3 min), then remove the supernatant and discard.

6. Add 150 µl of 80% Ethanol (wash 2), mix by pipetting. Briefly spin down to bring solution to bottom of the tube. Pellet the beads on the magnetic rack, wait until solution is clear and remove the supernatant and discard.

7. Repeat Step 6 for another wash with 80% ethanol (wash 3).

8. Leave sample tubes on magnetic rack and air dry the pellet for ~1 minutes.

9. Add 50 µl of Elution buffer to the beads and mix well. Incubate at room temperature for 1 min.

10. Set the sample tube on a magnetic stand for 1-2 min. Collect eluate from the bottom of the Eppendorf tube carefully without disturbing the pellet.

11. Repeat steps 9 and 10 for another elution. The eluate contains the extracted DNA.

Note: For downstream applications requiring high sample cleanliness, put the sample by a magnet to remove possibility of carryover beads.

Table 1. Reagent quantity used for each step.

Name	Volume (µl)	Volume (µl)
Sample (Whole Blood, PBMC Layer or Cells Dispersed in PBS)	120	150
Proteinase K Solution	4	5
Lysis Buffer	120	150
Magnetic Beads	3.2	4
Isopropanol	240	300
Wash Buffer (Wash 1)	120	150
Fresh 80% Ethanol (Wash 2 and 3)	120 X 2	150 X 2
Elution Buffer, 2X	40 X 2	50 X 2