MagVigen™ Saliva DNA Capture Kit

Cat # K61009

Product Contents

- MagVigen™ Saliva DNA Capture Nanoparticles
- Saliva Lysis Buffer
- Proteinase K
- Proteinase K buffer
- Wash Buffer 1 Stock
- Elution Buffer

Materials Needed

- Isopropanol
- Ethanol
- SDS, 16%
- Magnetic Rack (NVIGEN Cat# A20006)

Note:

The MagVigen™ Saliva DNA Capture Kit (K61009) can capture DNA (>30bp) from saliva samples.

Protocols

1. Prepare the saliva samples: if using frozen saliva, thaw under room temperature. Centrifuge saliva at 10000x g for 10 mins to remove any precipitation.
2. Prepare Lysis Buffer: Heat at 60^0C for a few minutes if there is solid to make clear solution.
3. Prepare Proteinase Solution: Add Proteinase K Buffer to Proteinase K powder vial. Vortexing to mix well. Store at -20^0C.
4. Prepare Wash Buffer 1: Calculate needed quantity according to Table 1. Add 450 ul Isopropanol to every 550 ul of Wash Buffer 1 stock. Fresh make the buffer each time.
5. Check Table 1 on the reagent use.
6. Add proteinase K solution to the bottom of a sample tube, add 320 ul Saliva Sample to the tube, add 80 ul of 1x PBS to the tube. Vortexing for 5s to mix well, briefly spin down.
7. Add 16% SDS to the tube. Vortexing for 5s to mix well, briefly spin down.
8. Add Saliva Lysis Buffer to the tube. Vortexing for 1 min to mix well. Briefly spin down. Incubate in a water bath at 60°C for 30 min.
9. Add MagVigen™ Saliva DNA Capture nanoparticles. Slightly shake the vial to disperse. Then add Isopropanol, vortexing to mix well, briefly spin down, and keep vortexing at a low to medium speed for 45 min.
10. Put the reaction tube on a magnetic rack to pellet the beads until the solution is clear (~ 10 min depending on the strength of the magnet and the sample volume).
11. Slowly remove the supernatant. Be careful not to take any beads, remove as much solution as possible. Tap the magnetic rack on a solid surface to allow residual solution to settle down to tube bottom, remove all supernatant.
12. Take tube off magnet, add Wash Buffer 1. Mix by pipetting or vortexing. Briefly spin down. Pellet the beads on the magnetic rack (~ 10 minutes), remove the supernatant. Tap the magnetic rack on a surface. Remove all supernatants.

    Note: There is no need to fully disperse the beads. Use pipette tip to disperse as much as possible is ok.
13. Wash the beads pellet using 80% Ethanol. Do not need to fully disperse the bead pellet. Slightly tilt forward and backward of the magnetic rack with the sample tubes remaining with the magnetic rack. Then briefly spin down so that no solution remains in the cap. Pellet the beads on a magnetic rack (~3 min) and remove all supernatant. Tap the magnetic rack on a solid surface to settle supernatant residue to the bottom of the tube. Remove all supernatants.
14. Wash the beads pellet again using 80% Ethanol. Pellet the beads (~ 2-3 min) and remove all supernatant.
15. Leave tubes on the magnetic rack and air dry the pellet to evaporate all ethanol. This takes 2-3 minutes.
16. Add desired amount of Elution Buffer to the beads, pipette up and down until all pellet has re-dispersed completely. Keep beads dispersed in elution buffer for 3 minutes.
17. Briefly spin down. Then set the tube on a magnetic stand for 5 minutes.
18. Collect the supernatant without disturbing the magnetic beads pellet. The supernatant contains extracted DNA. Put the tube by the magnet when pipetting the DNA solution out for downstream experiments. The extracted DNA solution can be stored at -20^0C if not immediately in use.

Table 1. Reagent volume used in each step.

Reagent	ul
Proteinase K	6
Saliva	**320**
1X PBS	80
SDS (16%)	25
Lysis Buffer	190
Magnetic Beads	28
Isopropanol	480
Wash Buffer 1	160
Wash 2 / 3 (80% Ethanol)	160
	160
Elution Example	40
Total Volume	1.2 ml