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Elution of nasal lining fluid collected via nasosorption

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We use this protocol and it's working

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Abstract

This procedure outlines the materials and processes for eluting nasal lining fluid collected using a Mucosal Diagnostics FX-i nasosorption device. This protocol has been successfully used to elute nasal lining fluid for both DNA extraction for 16s rRNA sequencing & metagenomics, and for proteomics using the SomaScan assay.

Guidelines

This protocol should be performed in a sterile environment to reduce cross contamination between nasosorption devices, to enable metagnomic DNA extraction and analyses

Materials

- Phosphate Buffered Saline (PBS) (#10010023)
- Tween 20 (Sigma, #P9416-50ML)
- Corning SpinX columns (Sigma, #CLS9301)
- 2mL Corning microfuge tubes (Sigma, #CLS3213)
- Sterile forceps (two pairs per swab)
- 1.6mL sterile microfuge tubes

Making elution buffer

1 Add [M] 0.05 % volume of Tween20 to PBS in a sterile environment to reduce cross-contamination

2 Store at 4 °C until required

Elution of nasal lining fluid

30m 30s

3 Thaw nasosorption device in cryotube on ice

4 Add 300 µL of elution buffer to a labelled 2mL microcentrifuge tube and place on ice

5 Remove the synthetic absorptive matrix (SAM) from the nasosorption device using sterile forceps by tearing it from the handle and place in the microcentrifuge tube containing elution buffer

6 Vortex the microcentrifuge tube for 00:00:30 30s

7 Using a new pair of sterile forceps, remove the SAM from the elution buffer, and place into a spinX column on a new 2mL microcentrifuge tube

8 Add the elution buffer from the first tube onto the SAM in the spinX column

9 Centrifuge the SAM and spinX column at 16000 x g for 00:30:00 at 4 °C 30m

10 Discard the spinX column and SAM

11 Aliquot the eluate into labelled microtubes, and measure total protein concentration using the assay of your choice (Pierce BCA assay, Qubit protein assay etc)

Protocol references

https://www.jove.com/t/56413/absorption-nasal-bronchial-fluids-precision-sampling-human