Nasal Lavage Sample collection and processing

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ABSTRACT

This protocol describes the nasal lavage fluid sampling that can be used for Omics (for Proteome analysis, see Schoenebeck et al, 2015; for Microbiome analysis see Heintz-Buschart et al, 2017) or RT-QuIC. Collection proceedure was adapted from B. Schoenebeck et al. 2015 (doi:10.1016/j.bbapap.2015.01.015).

PROTOCOL CITATION

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MANUSCRIPT CITATION please remember to cite the following publication along with this protocol

Schoenebeck B, May C, Güldner C, Respondek G, Mollenhauer B, Hoeglinger G, et al. Improved preparation of nasal lavage fluid (NLF) as a noninvasive sample for proteomic biomarker discovery. Biochim Biophys Acta - Proteins Proteomics. Elsevier B.V.; 2015;1854:741–5.

KEYWORDS

nasal, lavage, fluid, olfactory, sample, collection

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MATERIALS TEXT

- benchtop centrifuge with cooling function
- regular lab equipment (pipetts, tips, tubes)
- plastic disposable pipettes
- NaCl 0.9%, 10% and 20% (w/v) aqeous solutions

Nasal Lavage Sample collection

1 Two nasal lavage samples (NLS) are collected per person in each step, one from each nostril. Both nasal cavities are pre-washed with 2 mL of physiological NaCl solution with the use of a plastic disposable pipette to remove bacterial impurities.

2 After 5 mins of incubation, each nasal cavity is rinsed again with 2 mL physiological NaCl solution with subsequent collection of the NLS into a tube.

3 Following this step, an additional rinse is performed with 2 mL NaCl 10% (w/v) aqeous solution and collection of the NLS into a tube.

4 A final rinse is performed with 2 mL NaCl 20% (w/v) aqeous solution and collection of the NLS into a tube.

5 Depending on downstream applications, NLS samples can be immediatelly frozen at -80 °C until analysis or centrifuged at 10.000 x g for 5 mins at 4 °C in order to remove cellullar debri and then stored.