Nucleic acid isolation from respiratory samples

General recommendation for sample preparation

Swabs (e. g. naso- or oropharyngeal)

(Dry) Swabs without viral transport media:
Rinse swabs with moderate shaking in 400–500 µL of sterile PBS for 30 min to release sample material from the swab (swab heads should be completely submerged in PBS). Transfer the appropriate sample volume of the rinse solution (e. g. 150–400 µL) to a suitable reaction container / tube according to the respective user manual and proceed with the standard protocol starting with the sample lysis step.

Swabs with viral transport media:
Rinse swabs for 30 min with moderate shaking in viral transport media to release sample material from the swab. Transfer the appropriate sample volume (e. g. 150–400 µL) to a suitable reaction container/tube according to the respective user manual and proceed with the standard protocol starting with the sample lysis step.

Sputum / Bronchoalveolar lavage (non-viscous)

Non-viscous, clear and homogenous sputum and bronchoalveolar lavage samples can be used directly for nucleic acid extraction.

Transfer the appropriate sample volume (e. g. 150–400 µL) to a suitable reaction container/tube according to the respective user manual and proceed with the standard protocol starting with the sample lysis step.

Sputum / Bronchoalveolar lavage (viscous)

Viscous sputum and bronchoalveolar lavage samples should be liquefied before subjecting them to the nucleic extraction procedure. Transfer the appropriate sample volume (e. g. 150–400 µL) to a suitable reaction container/tube according to the respective user manual. Add the respective amount of lysis reagents to the sample (e. g. lysis buffer, proteinase K, Carrier RNA) and incubate at 70 °C for 10 min with moderate shaking. Check if the sample is liquefied, allow the sample to cool down and proceed with the binding step.

In case the sample is not liquefied after the heat incubation follow the recommended guideline of the CDC (https://www.cdc.gov/coronavirus/2019-ncov/downloads/processing-sputum-specimens.pdf) for processing sputum samples. Transfer the appropriate volume of the liquefied sample (e. g. 150–400 µL) to a suitable reaction container/tube according to the respective user manual and proceed with the standard protocol starting with the sample lysis step.

Recommended sample volume for viral nucleic acid extraction

Kit	REF	Recommended sample volume		
		Swab rinse solution (e. g. from naso- or oropharyngeal swab)	Sputum / Bronchoalveolar lavage (viscous)	Sputum / Bronchoalveolar lavage (non-viscous)
NucleoSpin® RNA Virus	740956	150 µL	150 µL	150 µL
NucleoSpin® Virus	740983	200 µL 400 µL	200 µL 400 µL	200 µL 400 µL
NucleoMag® Pathogen	744210	200 µL	200 µL	200 µL
NucleoMag® Virus	744800	200 µL	200 µL	200 µL
NucleoSpin® 8 / 96 Virus	740451 / 740452	100 µL	100 µL	100 µL

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