

NucleoMag® Pathogen

Automated purification of SARS-CoV-2 RNA from respiratory samples on the Maelstrom 9600



Introduction

Isolation of pathogen nucleic acids (e.g. viral RNA & DNA, bacterial DNA) from clinical samples is the basis for a large variety of molecular tests that have become standard methodology in research and diagnostic laboratories.

Due to the diversity of clinical sample material the isolation procedure often poses challenges to laboratory workflows. The purification process needs to be suitable for a wide variety of sample materials. In addition, the molecular diagnostic market demands automatable and reliable extraction methods.

To meet these requirements MACHEREY-NAGEL developed the NucleoMag® Pathogen kit allowing the automated isolation of nucleic acids from various starting materials using magnetic bead technology.

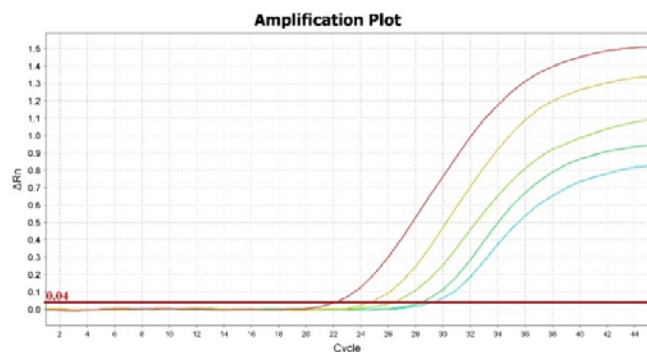
Here, we demonstrate the purification of SARS-CoV-2 viral RNA from respiratory secret samples using the TANBead Maelstrom 9600 instrument and downstream detection by qRT-PCR.

NucleoMag® Pathogen

Technology	Magnetic beads
Sample material	≤ 200 µL whole blood, serum, plasma, ≤ 200 µL swab wash solution ≤ 25 mg tissue (e.g., ear notches), ≤ 200 µL feces
Elution volume	50–200 µL
Fragment size	300 bp–approx. 50 kbp
Preparation time	30–40 min (excl. lysis) / 96 samples

TANBead Maelstrom 9600

Description	Automated nucleic acid extraction instrument
Technology	Magnetic rods; mixing by whirl stirring
Capacity	6–96 samples/run
Footprint	87 x 70 x 57.5 cm



Highly sensitive detection of SARS-CoV-2 RNA in respiratory samples

A dilution series of inactivated SARS-CoV-2 RNA was spiked into respiratory secret samples and subjected to the automated NucleoMag® Pathogen extraction procedure on the Maelstrom 9600 instrument. Viral RNA was detected reliably via qRT-PCR on an Applied Biosystems Real-Time PCR Cycler (red = 1:1 dilution, yellow = 1:3, light green = 1:10, green = 1:30, light blue = 1:100).

Data was kindly provided by Dr. Stefan Mustafa (Labor Dr. Mustafa, Vienna, Austria). The method was developed by Michael Zechner (LabConsulting, Vienna, Austria).

For more information please contact MACHEREY-NAGEL Bioanalysis technical support: support@mn-net.com

Your advantages at a glance

- Proven NucleoMag® lysis and purification procedure suitable for diverse clinical samples
- High speed nucleic acid purification by the Maelstrom 9600 instrument
- Highly pure nucleic acids ready to be used in the downstream application of your choice

Product	Specifications	Pack of	REF
NucleoMag® Pathogen	Magnetic bead-based kit for the isolation of viral RNA / DNA, and microbial DNA from clinical samples; including NucleoMag® B-Beads, buffers, Carrier RNA and Proteinase K	96 preps 384 preps	744210.1 744210.4
NucleoMag® Dx Pathogen (CE-IVD)	CE-IVD certified, magnetic bead-based kit for the isolation of viral RNA from respiratory samples; including NucleoMag® B-Beads, buffers, Carrier RNA and Proteinase K	384 preps	744215.4