Isolating A/H1N1 pandemic virus influenza strain using MACHEREY-NAGEL purification kits

The 2009 flu pandemic is a global outbreak of a new strain of influenza A virus subtype H1N1. The outbreak was first observed in Mexico, with evidence that there had been an ongoing epidemic for months before it was officially recognized as such. MACHEREY-NAGEL offers a broad range of purification products (see page 2 – product list) to isolate H1N1 RNA from a variety of samples such as swabs.
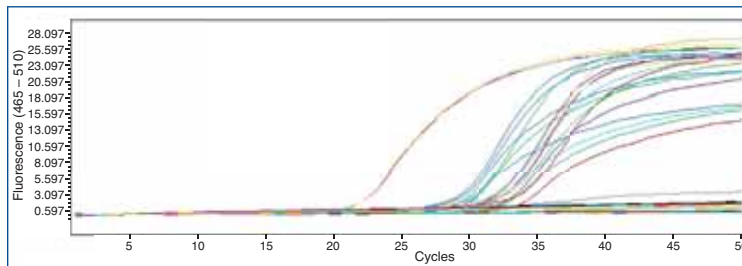
Application data

Fig. 1: Isolated viral RNA from swab samples (using **NucleoMag™ 96 Virus**) was subjected to RT-PCR reactions specific for H1N1.
RT-PCR setup was performed according to the recommendations of the Robert-Koch Institute (RKI) on a Roche LightCycler® 480 instrument. All results are in compliance with the reference controls.
Data was kindly provided by Dr. Tiemann, LABCON-OWL GmbH, Germany.
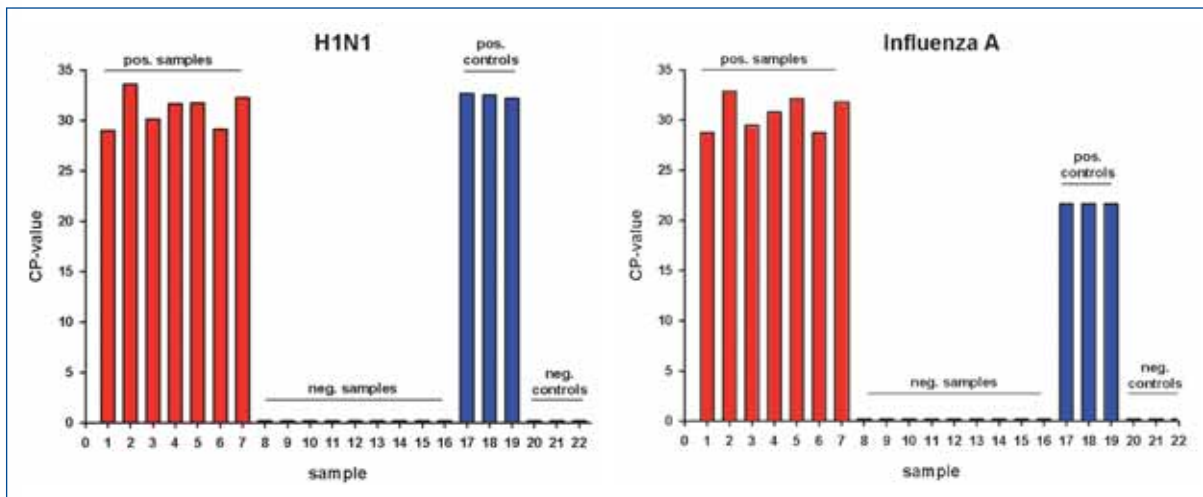

Fig. 2: Calculated CP values for H1N1 (left figure) and influenza A (right figure) after isolation of RNA from swab samples using **NucleoMag™ 96 Virus** and RT-PCR on a Roche LightCycler® 480.
Amplification controls – black bars: negative controls; blue bars: positive controls.
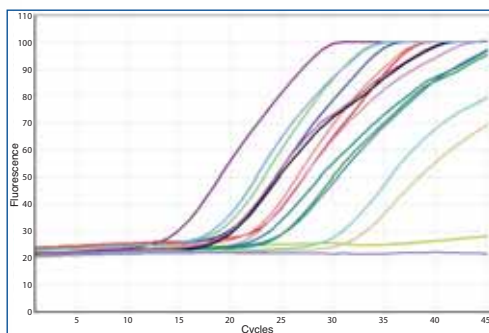Data was kindly provided by Dr. Tiemann, LABCON-OWL GmbH, Germany.

Fig. 3: Isolated viral RNA from swab samples (**NucleoSpin® 96 Virus**) was subjected to RT-PCR reactions specific for Influenza A on a Corbett Rotor-Gene® 6000. Primer sequences as provided by the Centers of Disease Control (CDC), USA. All results are in compliance with the reference controls.
Data was kindly provided by an Argentinean Diagnostic lab.

Selected references

Reference Institute	Purification of
National Institute of Health (NIH), Dept. of Medical Sciences Ministry of Public Health, Tiwanon Road, Muang, Nonthaburi 11000, Thailand	human H1N1, H5N1 using NucleoSpin® RNA Virus, REF 740956*
Dr Sergio Lejona, PhD, Area Biologia Molecular CEMAR, San Luis 2020 - Rosario, Santa Fe, Argentina	human H1N1 using NucleoSpin® RNA Virus, REF 740956
Fernando Perez, Virology and Molecular Biology R. HIGA ROSSI, La Plata, Argentina	human H1N1 using NucleoSpin® RNA Virus, REF 740956
Influenza Pandemic Contingency Plan, For The Maltese Islands, Dr. Denis Vella Baldacchino, Chairperson, Health Division Influenza Pandemic Advisory Committee, Malta	human H1N1, all human influenza types using NucleoSpin® RNA Virus REF 740956
Dr. Tiemann, LABCON-OWL GmbH, Bad Salzuflen, Germany	human H1N1 using NucleoMag™ 96 Virus REF 744800 on KingFisher® Flex**

* Sample stored in 2 ml preservation media. 0.25 ml/2 ml used per prep. Loading of lysate: in 2 steps.
Elution: RNase-free water, 70°C, 3 min; Detection: Real-time PCR, RT-PCR, multiplex.

** NucleoMag™ 96 Virus on KingFisher® Flex 96 allows processing of 96 samples within 60 min., equivalent to approx.
500-800 swab samples/day without any change in the routine workflow.

Publications

Influenza Viral Infection in 2005-2006 in Samitivej Hospital,
Sawang Saenghirunvattana MD et al, NIH Bangkok, J Med Assoc Thai 2007; 90 (3): 448-51

Health Division Influenza Pandemic Contingency Plan for the Maltese Islands (page 153; A14.4 SOP4)

Ordering information

Product	Preps	Specification	Reference
Single Preparations			
NucleoSpin® RNA Virus	**10 / 50 / 250**	Manual isolation of viral RNA from up to 150 µl serum, plasma, cell-free biological fluids; Carrier-RNA included for highest sensitivity in downstream applications	**740956.10 /.50 /.250**
Medium and High-Throughput			
NucleoSpin® 8 Virus	**12 x 8 / 60 x 8**	Manual and automated isolation of viral RNA and DNA from up to 150 µl (100 cp/ml) serum, plasma, cell-free biological fluids; Carrier-RNA included for highest sensitivity in downstream applications; Proteinase K included	**740643 / 740643.5**
NucleoSpin® 8 Virus Core Kit‡	**48 x 8**	Manual and automated isolation of viral RNA from up to 150 µl (100 cp/ml) serum, plasma, cell-free biological fluids; Carrier-RNA included for highest sensitivity in downstream applications	**740451.4**
NucleoSpin® 96 Virus	**2 x 96 / 4 x 96**	Manual and automated isolation of viral RNA and DNA from up to 150 µl (100 cp/ml) serum, plasma, cell-free biological fluids; Carrier-RNA included for highest sensitivity in downstream applications; Proteinase K included	**740691.2 / 740691.4**
NucleoSpin® 96 Virus Core Kit‡	**4 x 96**	Manual and automated isolation of viral RNA from up to 150 µl (100 cp/ml) serum, plasma, cell-free biological fluids; Carrier-RNA included for highest sensitivity in downstream applications	**740452.4**
Magnetic Beads			
NucleoMag™ 96 Virus	**1 x 96 / 4 x 96**	Manual and automated isolation of viral RNA and DNA from up to 200 µl serum or plasma using paramagnetic beads; Carrier-RNA included for highest sensitivity in downstream applications; Proteinase K included	**744800.1 / 744800.4**

‡ Core Kit: reduced kit content together with a large variety of separately available accessories allow optimal adjustment of the kits to individual needs. For purification of viral DNA, Proteinase K can be ordered separately.

Your local distributor:

For more information on MN products,
please contact your local representative or
visit MN directly under **www.mn-net.com**.

All products mentioned above are for research purposes only.

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