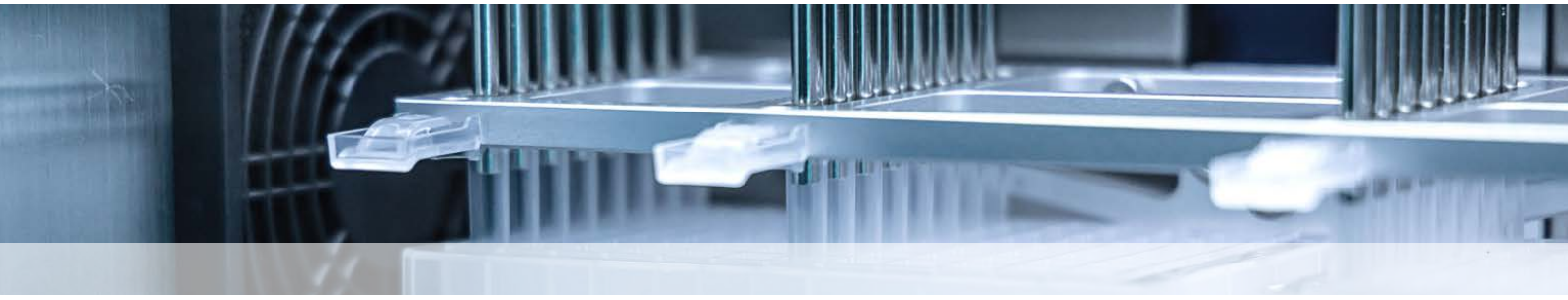
MACHEREY-NAGEL

Cross-contamination tests – MagnetaPure 32+



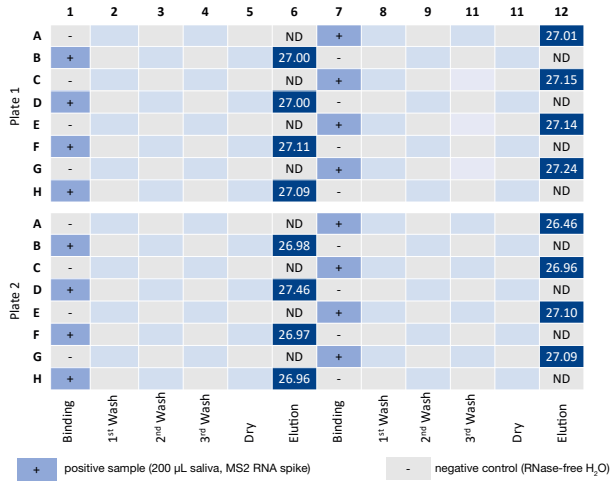
The MagnetaPure 32+ is a bench-top robot device for automated nucleic acid extraction from various sample materials such as tissue, blood, food, plants, cell-free body fluids or environmental samples. It is ideally suited for medium sample throughput processing using the MACHEREY-NAGEL NucleoMag® kits.

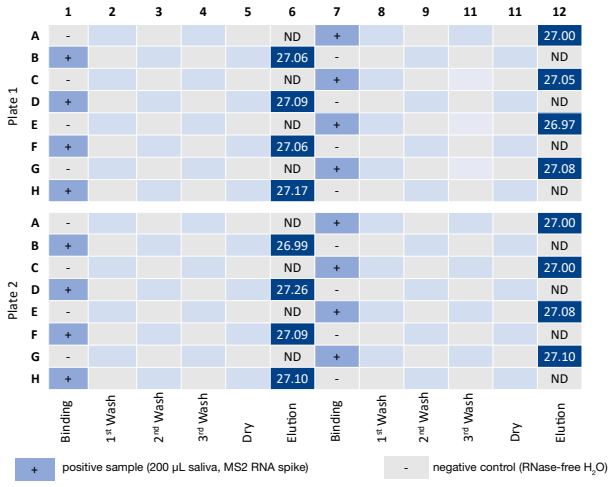
The NucleoMag® procedure is based on reversible adsorption of nucleic acids to paramagnetic beads under appropriate buffer conditions. The magnetic rods of the MagnetaPure 32+ device transfer the paramagnetic particles through the various purification steps of binding, mixing, washing and elution, thus guaranteeing minimal hands-on time. The MagnetaPure 32+ allows parallel processing of up to 32 samples per run. The purified nucleic acids are of high quality and purity.

In the application data below, cross-contaminations and reagent crossover were evaluated for the MagnetaPure 32+ instrument using the NucleoMag® Pathogen kit as an example.

MagnetaPure 32+	
Description	Automated nucleic acid extraction instrument
Technology	Magnetic rods
Capacity	Up to 32 samples/run
Processing volume	Up to 1000 µL
Features	▪ Compact Bench-top robot ▪ Easy-to-use touch screen ▪ Ready-to-use NucleoMag® scripts ▪ Built-in UV lamp for decontamination ▪ Built-in heating block for lysis and elution ▪ Acoustic signal at program completion ▪ Pause function for emergency stop ▪ Open and flexible programming

The data below indicate a cross-contamination free workflow for the processing of MACHEREY-NAGEL NucleoMag® kits on the MagnetaPure 32+ automated extraction robot. No qPCR signals were detected in the wells containing negative controls (RNase-free H_2O).





NucleoMag® Pathogen cross-contamination test

Positive (human saliva plus MS2 phage RNA spikes) and negative control (RNase-free H_2O) samples (200 µL each) were arranged in an alternating pattern in the appropriate position on a 96-well deepwell plate and subjected to the NucleoMag® Pathogen procedure on the MagnetaPure 32+ automated extraction robot. Presence of RNA in the eluates (row 6 and 12) was examined by a qPCR Taqman assay for MS2-phage RNA. All positive samples were successfully amplified and detected (average mean C_t = 27.06 ± 0.15). Absence of qPCR signal (ND, C_t undetermined) in the negative control samples indicates a cross contamination-free workflow. Cross-contamination tests were performed in two independent experiments (left side: run 1; right side: run 2) on two different plates each. The data indicate a cross-contamination free workflow for processing NucleoMag® kits on the MagnetaPure 32+ automated extraction robot.