Use of the MN Wash Plate When Processing NucleoSpin® Kits in the 8- or 96-Well Format

MACHEREY-NAGEL's Wash Plate is designed to improve the drying of the silica membrane of the NucleoSpin® kits in the 8- or 96-well format.

One critical step during the purification of nucleic acids using silica-membrane technology is the complete removal of ethanol-containing wash buffers after the washing steps. Residual traces of EtOH in the eluate might have negative effects on downstream applications. Especially automated DNA sequencing is very sensitive to residual EtOH. Incomplete removal of EtOH will result in shorter read lenghts or failed reactions.

The MN Wash Plate (Fig. 1) provides a very effective tool to improve the drying of the silica-membrane. It is included in all 8-well and 96-well NucleoSpin® kits.

Fig. 1: *MN Wash Plate*

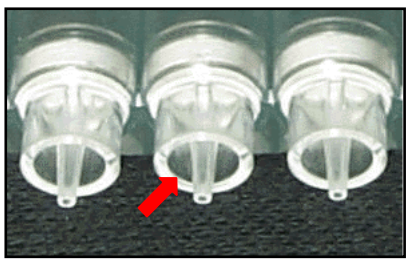
Material:

The MN Wash Plate is a microtiter plate open on both sides thus allowing free flow-through of liquid, e.g. wash buffer.

Method:

During the washing steps of the respective protocol the MN Wash Plate is placed underneath the Binding Plate, e.g. NucleoSpin® Plasmid Binding Plate (Fig. 2). 96 separate channels are formed when the outlets of the Binding Plate protrude into the wells of the MN Wash Plate (Fig. 3).

If using the NucleoVac 96, the right positioning is achieved by inserting the spacers "MTP/Multi-96 Plate". On automated workstations either the MN Frame or a specifc frame supplied by the robot manufacturer is used (for details please contact MN).



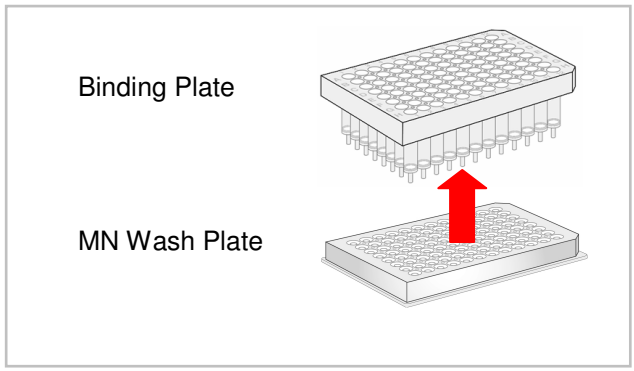


Fig. 2: *The MN Wash Plate is placed underneath the Binding Plate, e.g. NucleoSpin® Plasmid Binding Plate.*

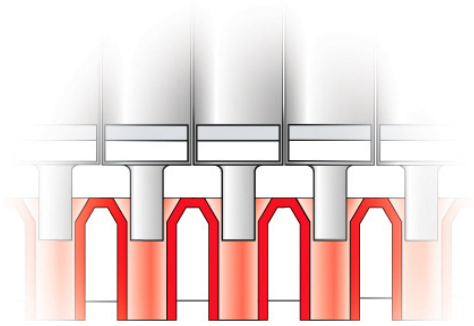


Fig. 3: *96 separate channels are formed. The bottom of the Binding Plate is protected from spraying of wash buffer. For demonstration, Binding Plate is not completely inserted yet.*

The MN Wash Plate prevents the bottom of the Binding Plate to be contaminated by sample or by ethanol-containing wash buffers. Any spray will be drained away from the Binding Plate to waste. The risk for cross-contamination and ethanol carry-over is greatly reduced.

The MN Wash Plate is discarded after the washing steps, the drying under vacuum then starts with an already fairly dry Binding Plate.

With other commercially available systems the removal of wash buffer is not as effective as buffer gets trapped between the outlet of the binding plate and the collar around it (Fig. 4), resulting in a longer drying of the binding plate or compromized results of downstream applications due to residual EtOH in the eluted DNA/RNA.

Fig. 4: *Outlets of a commercially available 96-well binding plate. Wash buffer might be trapped between outlets and collar (arrow).*

For more information regarding the use of MN products, please contact your local representative or visit MN directly under www.mn-net.com.

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