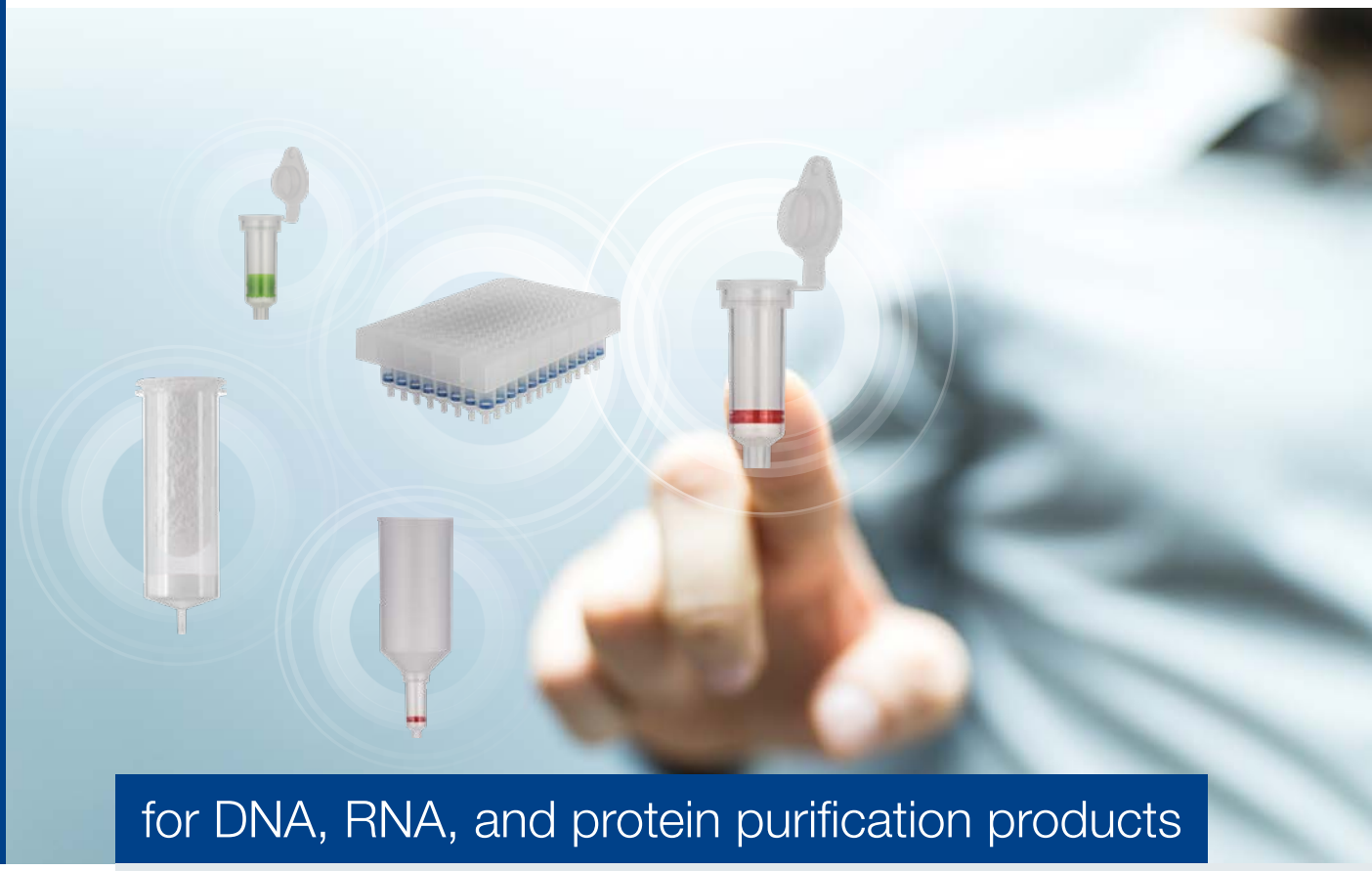
Bioanalysis

MACHEREY-NAGEL

# Selection Guide



for DNA, RNA, and protein purification products

- Compact overview of MN Bioanalysis products
- All essential information at a glance
- Find the optimal product for your application

MACHEREY-NAGEL
www.mn-net.com

ADIS INTERNATIONAL

MN Since 1911

## RNA, DNA, and protein purification from MACHEREY-NAGEL

Since 1993 MACHEREY-NAGEL has been successfully developing, producing, and worldwide marketing a comprehensive range of ready to use kits and consumables for purification of nucleic acids (DNA and RNA) and proteins.

The company provides innovative bioseparation technologies and exceptional products for a variety of application areas: academic, industrial, clinical, CROs, and governmental research, genomics, nucleic acid based molecular diagnostics, genetic identity (including forensics, veterinary testing, GMO detection / quantification as well as animal species differentiation), gene expression profiling, gene therapy, and proteomics.

This selection guide presents an overview of the broad portfolio of MN products for DNA, RNA, and protein purification. It serves as a guide to find the most suitable product for every application from our constantly growing range of MN Bioanalysis products.

## Why choose MN for your life science application

MN is known as reliable partner for high quality products in sample preparation. Our products cover a broad range of applications and are highly esteemed in leading laboratories worldwide. The vast experience of our research team allows MN to offer optimal solutions for changing requirements and challenges of today's life science.

## How to use the selection guide

As seen at the summary on page 3, the products of this selection guide are listed in groups according to the intended application.

After identifying the target molecule / starting material of your personal interest, follow the corresponding numbers to select the kits which relate to your lab focus.





## Summary

# Plasmid DNA

Plasmid DNA

| No. | Product | REF | Starting material (*E. coli* culture) | Format | Binding capacity[1] | Typical yield / recovery | Elution volume | Vector size | Approximate processing time | Features |
|---|---|---|---|---|---|---|---|---|---|---|
| ■ Plasmid DNA | | | | | | | | | | |
| **Molecular biology-grade plasmid DNA** | | | | | | | | | | |
| 1 | NucleoSpin® Plasmid, NucleoSpin® Plasmid (NoLid) | 740588.10 / .50 / .250, 740499.50 / .250 | 1–5 mL (high copy), 6–10 mL (low copy) | Mini spin column | 60 µg | 25–45 µg | 50 µL | < 25 kbp | 20 min/6 preps | Low protein contamination due to Wash Buffer AW |
| 2 | NucleoSpin® Plasmid EasyPure | 740727.10 / .50 / .250 | 1–5 mL (high copy) | Mini spin column | 35 µg | 15–30 µg | 50 µL | < 25 kbp | 14 min/6 preps | Ultrafast plasmid mini prep \| Liquid RNase included |
| 3 | NucleoSpin® 8 Plasmid, NucleoSpin® 8 Plasmid Core Kit[2], NucleoSpin® 96 Plasmid, NucleoSpin® 96 Plasmid Core Kit[2] | 740621 / .5, 740461.4, 740625.1 / .4 / .24, 740616.4 | 1–5 mL | 8-well strip, 96-well plate | 30 µg | 4–30 µg | 75–150 µL | < 25 kbp | 45 min/6 strips or plate | Flexible format \| Flexible processing (vacuum / centrifugation / positive pressure) \| Automation possible |
| 4 | NucleoSpin® 96 Flash | 740618.2 / .4 / .24 | 1.1–1.3 mL (high copy), 1.1–3.9 mL (low copy) | 96-well plate | | 8 µg (high copy), 1 µg (low copy) | | < 250 kbp | 90 min/2 plates | No BAC shearing |
| **Transfection-grade plasmid DNA** | | | | | | | | | | |
| 5 | NucleoSpin® Plasmid Transfection-grade | 740490.10 / .50 / .250 | 1–5 mL | Mini spin column | 35 µg | 15–30 µg | 30–50 µL | < 25 kbp | 20 min/6 preps | Patented technology for endotoxin removal \| Purification in mini format \| Ultrafast procedure |
| 6 | NucleoSpin® 96 Plasmid Transfection-grade, NucleoSpin® 96 Plasmid Transfection-grade Core Kit[2] | 740491.1 / .4 / .24, 740492.4 / .24 | 1–5 mL | 96-well plate | 20 µg | 5–20 µg | 100–200 µL | < 25 kbp | 45 min/plate | Novel technology to diminish endotoxin content \| Purification in HTP format \| Ultrafast procedure |
| 7 | NucleoSnap® Plasmid Midi | 740494.10 / .50 | 50 mL | Snap off column (vacuum processing) | 1500 µg | 250 µg | 200–500 µL | < 25 kbp | 35 min/6 preps | Ultrafast procedure \| New column design (snap off column) for vacuum processing of large sample volumes \| Patented technology for endotoxin removal |
| 8 | NucleoBond® Xtra Midi, NucleoBond® Xtra Midi Plus | 740410.10 / .50 / .100, 740412.10 / .50 | < 200 mL (high copy), < 400 mL (low copy) | Midi gravity flow column | 800 µg | 500 µg | | < 300 kbp | 70 min/prep, 30 min/prep | Lysate clarification and binding in one step \| NucleoBond® Xtra Midi Plus: NucleoBond® Finalizer for rapid plasmid precipitation |
| 9 | NucleoBond® Xtra Maxi, NucleoBond® Xtra Maxi Plus | 740414.10 / .50 / .100, 740416.10 / .50 | < 600 mL (high copy), < 1200 mL (low copy) | Maxi gravity flow column | 2000 µg | 1000 µg | | < 300 kbp | 75 min/prep, 35 min/prep | Lysate clarification and binding in one step \| NucleoBond® Xtra Maxi Plus: NucleoBond® Finalizer for rapid plasmid precipitation |
| 10 | NucleoBond® Xtra BAC | 740436.10 / .25 | 250–750 mL (low copy) | Maxi gravity flow column | 150 µg | 10–150 µg | | < 300 kbp | 75 min/4 preps | Lysate clarification and binding in one step |
| **Endotoxin-free plasmid DNA** | | | | | | | | | | |
| 11 | NucleoBond® Xtra Midi EF, NucleoBond® Xtra Midi Plus EF | 740420.10 / .50, 740422.10 / .50 | < 200 mL (high copy), < 400 mL (low copy) | Midi gravity flow column | 800 µg | 500 µg | | < 300 kbp | 85 min/prep, 45 min/prep | Endotoxin level of < 0.05 EU/µg DNA \| NucleoBond® Xtra Midi Plus EF: NucleoBond® Finalizer for rapid plasmid precipitation |
| 12 | NucleoBond® Xtra Maxi EF, NucleoBond® Xtra Maxi Plus EF | 740424.10 / .50, 740426.10 / .50 | < 600 mL (high copy), < 1200 mL (low copy) | Maxi gravity flow column | 2000 µg | 1000 µg | | < 300 kbp | 90 min/prep, 50 min/prep | Endotoxin level of < 0.05 EU/µg DNA \| NucleoBond® Xtra Maxi Plus EF: NucleoBond® Finalizer for rapid plasmid precipitation |
| 13 | NucleoBond® 96 Xtra EF | 740430.1 / .4 | 1–5 mL | 96-well plate | 50 µg | 2–4 µg (1.5 mL in 96-well plates), 10–50 µg (5 mL in glass tubes) | | < 25 kbp, < 300 kbp (without NucleoBond® Finalizer Plate) | 120 min/plate | Endotoxin level of < 0.1 EU/µg DNA \| NucleoBond® Filter Plate for lysate clarification, NucleoBond® Finalizer Plate for DNA precipitation |
| **Plasmid DNA concentration and desalting** | | | | | | | | | | |
| 14 | NucleoSnap® Finisher Midi, NucleoSnap® Finisher Maxi | 740434.10 / .50, 740435.10 / .50 | DNA eluate | Snap off column (vacuum processing) | 1.5 mg | 90–100 % | ≥ 100 µL | < 25 kbp | < 10 min/12 preps | No time consuming isopropanol precipitation \| New column design (snap off column) for vacuum processing of large sample volumes |
| 15 | NucleoSpin® Finisher Midi | 740439.10 / .50 | DNA eluate | Funnel column (centrifuge processing) | 1.5 mg | 90–100 % | ≥ 100 µL | < 25 kbp | 15 min/6 preps | No time consuming isopropanol precipitation |
| 16 | NucleoBond® Finalizer, NucleoBond® Finalizer Plus | 740519.20, 740520.20 | 5 mL DNA eluate | Syringe filter | 500 µg | 60–90 % | 200–800 µL | 2–50 kbp | 5 min/prep | Fast plasmid precipitation \| NucleoBond® Finalizer Plus: additional syringes included |
| 17 | NucleoBond® Finalizer Large, NucleoBond® Finalizer Large Plus | 740418.20, 740419.20 | 15 mL DNA eluate | Syringe filter | 2000 µg | 60–90 % | 400–1000 µL | 2–50 kbp | 5 min/prep | Fast plasmid precipitation \| NucleoBond® Finalizer Large Plus: additional syringes included |

[1] Theoretical value; [2] Kit mainly for use on automation platforms, for additional accessories and detailed information see *www.mn-net.com*





Plasmid DNA

# Clean up

Clean up

| No. | Product | REF | Typical amount of starting material | Format | Binding capacity[1] | Typical recovery | Elution volume | Fragment size | Approximate processing time | Features |
|---|---|---|---|---|---|---|---|---|---|---|
| ■ Clean up | | | | | | | | | | |
| **PCR clean up** | | | | | | | | | | |
| 18 | NucleoSpin® Gel and PCR Clean up | 740609.10 / .50 / .250 | < 400 µL PCR reaction mixture | Mini spin column | 25 µg | 70–95 % | 15–30 µL | 50 bp–approx. 20 kbp | 10 min/6 preps | 2 in 1 kit – PCR clean up and gel extraction |
| 19 | NucleoSpin® Gel and PCR Clean up Midi | 740986.20 | < 4 mL PCR reaction mixture | Midi spin column | 75 µg | 70–95 % | 200–400 µL | 50 bp–approx. 20 kbp | 25 min/6 preps | 2 in 1 kit – PCR clean up and gel extraction \| Now in Midi prep scale |
| 20 | NucleoSpin® Gel and PCR Clean up Maxi | 740610.20 | < 10 mL PCR reaction mixture | Maxi spin column | 250 µg | 70–95 % | 1000 µL | 50 bp–approx. 20 kbp | 30 min/6 preps | 2 in 1 kit – PCR clean up and gel extraction \| Now in Maxi prep scale |
| 21 | NucleoSpin® 8 PCR Clean up, NucleoSpin® 8 PCR Clean up Core Kit[2], NucleoSpin® 96 PCR Clean up, NucleoSpin® 96 PCR Clean up Core Kit[2] | 740668 / .5, 740463.4, 740658.1 / .2 / .4 / .24, 740464.4 | < 100 µL PCR reaction mixture | 8-well strip, 96-well plate | 15 µg | 75–95 % | 75–150 µL | 50 bp–10 kbp | 30 min/6 strips, 45 min / plate | Flexible format \| Flexible processing (vacuum / centrifugation / positive pressure) \| Automation possible |
| 22 | NucleoFast® 96 PCR Clean up Kit, NucleoFast® 96 PCR Plates | 743500.4, 743100.10 / .50 | 20–300 µL PCR reaction mixture | 96-well plate | | 40–95 % | 25–100 µL | > 150 bp | 20 min / plate | Fast procedure (vacuum / centrifugation) \| Automation possible |
| 23 | NucleoMag® PCR | 744100.1 / .4 / .24 | < 50 µL PCR reaction mixture | Magnetic beads | 0.3 µg/µL beads | 80–95 % | 25–100 µL | 150 bp–approx. 10 kbp | 40–120 min/96 preps[3] | Easily adapted to automated use |
| **Gel extraction** | | | | | | | | | | |
| 24 | NucleoSpin® Gel and PCR Clean up | 740609.10 / .50 / .250 | < 400 mg agarose gel | Mini spin column | 25 µg | 70–95 % | 15–30 µL | 50 bp–approx. 20 kbp | 10 min/6 preps[4] | 2 in 1 kit – PCR clean up and gel extraction |
| 25 | NucleoSpin® Gel and PCR Clean up Midi | 740986.20 | < 4 g TAE / TBE agarose gel | Midi spin column | 75 µg | 70–95 % | 200–400 µL | 50 bp–approx. 20 kbp | 25 min/6 preps | 2 in 1 kit – PCR clean up and gel extraction \| Now in Midi prep scale |
| 26 | NucleoSpin® Gel and PCR Clean up Maxi | 740610.20 | < 10 g TAE / TBE agarose gel | Maxi spin column | 250 µg | 70–95 % | 1000 µL | 50 bp–approx. 20 kbp | 30 min/6 preps | 2 in 1 kit – PCR clean up and gel extraction \| Now in Maxi prep scale |
| **NGS clean up and size selection** | | | | | | | | | | |
| 27 | NucleoMag® NGS Clean up and Size Select[5] | 744970.5 / .50 / .500 | 17.5 pg–5 µg nucleic acids in NGS[6] reaction mixture | Magnetic beads | | ≥ 80 % | 10–100 µL | Tunable (150–800 bp) | 40–120 min/96 preps[3] | Convenient magnetic bead technology \| Easy to adjust for specific applications or sequencers \| Optimal scalability for manual and automated processing |
| **Genomic DNA clean up** | | | | | | | | | | |
| 28 | NucleoSpin® gDNA Clean up XS | 740904.10 / .50 / .250 | < 400 µL solution containing < 2 µg DNA | Mini spin column (XS design) | 3 µg | 60–70 % | 6–10 µL | 100 bp–approx. 50 kbp | 20 min/6 preps | For small amounts of genomic DNA (e.g., forensic samples) |
| 29 | NucleoSpin® gDNA Clean up | 740230.10 / .50 / .250 | < 150 µL solution containing < 25 µg DNA | Mini spin column | 50 µg | 80–90 % | 50–100 µL | 100 bp–approx. 50 kbp | 15 min/10 preps | Special buffer chemistry for clean up of genomic DNA |
| **RNA clean up** | | | | | | | | | | |
| 30 | NucleoSpin® RNA Clean up XS | 740903.10 / .50 / .250 | < 300 µL RNA solution containing < 90 µg RNA | Mini spin column (XS design) | 110 µg | 85–95 % | 5–30 µL | > 200 nt | 20 min/6 preps | Easy clean up and concentration of prepurified RNA |
| 31 | NucleoSpin® RNA Clean up | 740948.10 / .50 / .250 | < 200 µL phenol / chloroform extract or reaction mixture | Mini spin column | 200 µg | 85–95 % | 40–120 µL | > 200 nt | 20 min/6 preps | Easy clean up of prepurified RNA |
| 32 | NucleoSpin® RNA Clean up Maxi | 740910.20 | < 35 mg crude RNA | Maxi spin column | 35 mg | 85–95 % | 3–5 mL | > 200 nt | 30 min/6 preps | Simple, fast, and convenient clean up of huge RNA amounts |
| **Dye terminator removal** | | | | | | | | | | |
| 33 | NucleoSEQ® | 740523.10 / .50 / .250 | 20 µL sequencing reaction mixture | Mini spin column | | | 20 µL | | 5 min/prep (excl. hydration) | Efficient dye terminator removal |

[1] Theoretical value; [2] Kit mainly for use on automation platforms, for additional accessories and detailed information see *www.mn-net.com/HTapplications*; [3] Depending on instrument type / setup / configuration. For more detailed infomation regarding the processing time and equipment (e.g., automation platform, purification manifolds), please have a look at *www.mn-net.com*.; [4] Gel melting time excluded; [5] Not available in the USA; [6] Next generation sequencing

# RNA

RNA

| No. | Product | REF | Typical amount of starting material | Format | Binding capacity[1] | Typical yield / recovery | Elution volume | Fragment size | Approximate processing time | Features |
|---|---|---|---|---|---|---|---|---|---|---|
| ■ RNA | | | | | | | | | | |
| **RNA from cells and tissue** | | | | | | | | | | |
| 34 | NucleoSpin® RNA Plus XS | 740990.10 / .50 / .250 | 1–$10^5$ cells, < 5 mg human / animal tissue | Mini spin column (XS design) | 110 µg | 0.5–2 µg ($10^5$ HeLa cells), 0.05–0.2 ng (10 HeLa cells), 2.5–8 ng (0.5 µg mouse liver), 0.1–0.5 ng (0.5 µg mouse brain) | 5–30 µL | > 100 nt | 18 min/6 preps | For extra small samples down to single cell analysis \| gDNA removal column – no DNA digestion needed \| No ß-mercapthoethanol or TCEP \| XS columns allow elution in 5 µL for highest RNA concentration |
| 35 | NucleoSpin® RNA Plus | 740984.10 / .50 / .250 | $10^7$ cultured cells, < $10^9$ bacterial cells, < $10^8$ yeast cells, < 30 mg human / animal tissue | Mini spin column | 200 µg | 40–60 µg (5 x $10^6$ HeLa cells), 80–100 µg (20 mg mouse liver), 40–70 µg (20 mg mouse kidney), 30–60 µg (5 mg mouse spleen) | 30–120 µL | > 200 nt | 20 min/6 preps | Filtration and DNA removal in one step with the NucleoSpin® gDNA Removal Column \| No ß-mercaptoethanol / TCEP necessary |
| 36 | NucleoSpin® RNA XS | 740902.10 / .50 / .250 | 1–$10^5$ cells, < 5 mg human / animal tissue | Mini spin column (XS design) | 110 µg | 0.1–1.5 ng ($10^2$ HeLa cells), 1–1.5 µg ($10^5$ HeLa cells) | 5–30 µL | > 200 nt | 35 min/6 preps | For smallest samples \| rDNase and NucleoSpin® Filters included \| No ß-mercapthoethanol |
| 37 | NucleoSpin® RNA | 740955.10 / .50 / .250 | < 5 x $10^6$ cultured cells, < $10^9$ bacterial cells, < $10^8$ yeast cells, < 30 mg human / animal tissue | Mini spin column | 200 µg | 14 µg ($10^6$ HeLa cells), 70 µg ($10^9$ bacterial cells) | 30–120 µL | > 200 nt | 35 min/6 preps | rDNase and NucleoSpin® Filters included |
| 38 | NucleoSpin® RNA Midi | 740962.20 | < 5 x $10^7$ cultured cells, < $10^{10}$ bacterial cells, < 3 x $10^8$ yeast cells, < 200 mg human / animal tissue | Midi spin column | 700 µg | 620 µg (4 x $10^7$ HeLa cells) | 500–1000 µL | > 200 nt | 80 min/4 preps | Large scale RNA preparation \| rDNase and NucleoSpin® Filters included |
| 39 | NucleoSpin® 8 RNA, NucleoSpin® 8 RNA Core Kit[2], NucleoSpin® 96 RNA, NucleoSpin® 96 RNA Core Kit[2] | 740698 / .5, 740465.4, 740709.2 / .4 / .24, 740466.4 | < 2 x $10^6$ cells, < 20 mg human / animal tissue | 8-well strip, 96-well plate | 100 µg | 20 µg (2 x $10^6$ HeLa cells, 20 mg mouse liver) | 50–130 µL | > 200 nt | 45 min/6 strips, 70 min/plate | Flexible format \| Flexible processing (vacuum / centrifugation / positive pressure) \| Automation possible \| rDNase included |
| 40 | NucleoMag® RNA | 744350.1 / .4 | < 2 x $10^6$ cells, < 20 mg human / animal tissue | Magnetic beads | 0.4 µg/µL beads | < 30 µg | 50–200 µL | > 200 nt | 40–120 min/96 preps[3] (excl. lysis) | rDNase included \| Easily adapted to automated use |
| 41 | NucleoZOL | 740404.200 | Per mL NucleoZol: < 2–$10^6$ cultured bacteria / yeast cells, < 100 mg human / animal / plant tissue, < 0.4 mL (viral) fluids | Reagent | | Total RNA: 6–8 µg/mg (liver), 3–4 µg/mg (kidney, spleen), 0.5–1.5 µg/mg (muscle, brain), 4–10 µg/$10^6$ (cultured cells) Large RNA: 5–7 µg/mg (liver), 3–4 µg/mg ( kidney, spleen), 0.5–1.5 µg/mg (muscle, brain), 3–8 µg/$10^6$ (cultured cells) | Flexible | > 10 nt (total RNA), > 10–200 nt (small RNA), > 200 nt (large RNA) | < 1 h | No chloroform, no phase separation, easy procedure \| High RNA yield and purity from any sample material \| Small and large RNA in one or in separated fractions \| Combination with NucleoSpin® RNA Set (mini spin columns) possible |
| 42 | NucleoSpin® RNA Set for NucleoZOL | 740406.10 / .50 | < 500 µL NucleoZOL sample | Mini spin column | 200 µg | 85–95 % (depending on sample quality) | 60 µL | > 10 nt (total RNA), > 10–200 nt (small RNA), > 200 nt (large RNA) | < 1 h | Total RNA (incl. miRNA) with a simple bind-wash-elute procedure \| Efficient lysis, superior yields \| Save time and benefit from the easy and proven handling |
| **MicroRNA** | | | | | | | | | | |
| 43 | NucleoSpin® miRNA | 740971.10 / .50 / .250 | < $10^7$ cells, < 30 mg human / animal tissue, < 50 mg plant tissue, < 150 µL reaction mixture | Mini spin column | 200 µg | 100 µg total RNA ($10^7$ HeLa cells: 10 µg small RNA, 90 µg large RNA) | 30–100 µL | ≥ 18 nt | 45 min/6 preps (small and large RNA), 35 min/6 preps (small RNA only) | Optional fractionation of small and large RNA \| No organic solvents \| rDNase and NucleoSpin® Filters included |
| 44 | NucleoSpin® miRNA Plasma | 740981.10 / .50 / .250 | < 300 µL plasma / serum (< 900 µL with multiple loading steps) | Mini spin column | 200 µg | Depending on sample amount and quality | 20–50 µL | ≥ 18 nt | 40 min/10 preps, 70 min/10 preps (incl. DNA digestion) | Efficient purification of RNA \| Optional co-isolation of cfDNA |
| 45 | Exosome Precipitation Solution (Serum / Plasma)[4] | 740398.2 / .12 / .60 | 0.1–1 mL serum / plasma | Buffer set | | | | | 45 min/6 preps | RNA purification from exosomes \| Simple and efficient precipitation of exosomes \| No ultracentrifugation \| Flexible scale \| Ideal for subsequent nucleic acid purification with NucleoSpin® miRNA Plasma |
| 46 | Exosome Precipitation Solution (Urine)[4] | 740399.12 / .50 / .250 | 1–10 mL urine | Buffer set | | | | | 45 min/6 preps | RNA purification from exosomes \| Simple and efficient precipitation of exosomes \| No ultracentrifugation \| Flexible scale \| Ideal for subsequent nucleic acid purification with NucleoSpin® miRNA Plasma |
| **RNA, DNA, and protein isolation** | | | | | | | | | | |
| 47 | NucleoSpin® TriPrep | 740966.10 / .50 / .250 | < 5 x $10^6$ cells, < 30 mg human / animal tissue, < 100 mg plant tissue | Mini spin column | 200 µg | < 70 µg RNA, < 6 µg DNA, < 1200 µg protein | 40–120 µL (RNA), 100 µL (DNA), 10–100 µL (protein) | > 200 nt (RNA), < 30 kbp (DNA), 15–300 kDa (protein) | 30 min/6 preps (RNA), 45 min/6 preps (RNA and DNA), +35 min/6 preps (protein) | RNA, DNA, and proteins - three molecules in separate fractions \| One procedure |
| 48 | NucleoSpin® RNA/Protein | 740933.10 / .50 / .250 | < 5 x $10^6$ cells, < 30 mg human / animal tissue, < 100 mg plant tissue | Mini spin column | 200 µg | < 70 µg RNA, < 1200 µg protein | 40–120 µL (RNA), 10–100 µL (protein) | > 200 nt (RNA), 15–300 kDa (protein) | 30 min/6 preps (RNA), +35 min/6 preps (protein) | RNA and proteins - two molecules in separate fractions \| One procedure |

[1] Theoretical value; [2] Kit mainly for use on automation platforms, for additional accessories and detailed information see *www.mn-net.com*; [3] Depending on instrument type / setup / configuration. For more detailed infomation regarding the processing time and equipment (e.g., automation platform, purification manifolds), please have a look at *www.mn-net.com*.; [4] Not available in the USA

# RNA

| No. | Product | REF | Typical amount of starting material | Format | Binding capacity[1)] | Typical yield / recovery | Elution volume | Fragment size | Approximate processing time | Features |
|---|---|---|---|---|---|---|---|---|---|---|
| **RNA, DNA, and protein isolation** | | | | | | | | | | |
| 49 | NucleoSpin® RNA/DNA Buffer Set | 740944 | See NucleoSpin® RNA, NucleoSpin® RNA XS, NucleoSpin® miRNA, NucleoSpin® RNA Blood, NucleoSpin® RNA Plant, NucleoSpin® RNA/ Protein | Buffer set | | RNA yield and quality identical to NucleoSpin® RNA kits | 100 µL (DNA) | < 30 kbp (DNA) | 5 min/6 preps (DNA), for RNA, see NucleoSpin® RNA kits | RNA and DNA – two molecules in separate fractions \| One procedure |
| **RNA from blood** | | | | | | | | | | |
| 50 | NucleoSpin® RNA Blood | 740200.10 / .50 | < 400 µL whole blood (fresh or frozen) | Mini spin column | 200 µg | 1–8 µg (400 µL whole blood) | 40–120 µL | > 200 nt | 55 min/6 preps | No selective erythrocyte lysis – direct lysis of whole blood \| rDNase included |
| 51 | NucleoSpin® RNA Blood Midi | 740210.20 | 400–1300 µL whole blood (fresh or frozen) | Midi spin column | 700 µg | 4–26 µg (1.3 mL whole blood) | 200–400 µL | > 200 nt | 75 min/6 preps | No selective erythrocyte lysis – direct lysis of whole blood \| rDNase included |
| 52 | NucleoSpin® 8 RNA Blood, NucleoSpin® 96 RNA Blood | 740220 / .5, 740225.2 / .4 | < 400 µL whole blood (fresh or frozen) | 8-well strip, 96-well plate | 100 µg | 1–8 µg (400 µL whole blood) | 50–130 µL | > 200 nt | 60 min/6 strips, 100 min/plate | No selective erythrocyte lysis – direct lysis of whole blood \| rDNase included \| Flexible format \| Flexible processing (vacuum / centrifugation / positive pressure) \| Automation possible |
| **Total RNA from FFPE samples** | | | | | | | | | | |
| 53 | NucleoSpin® totalRNA FFPE XS | 740969.10 / .50 / .250 | < 10 sections (10 µm) with < 5 mg tissue | Mini spin column (XS design) | 100 µg | Depending on sample amount and quality | 5–30 µL | | 70 min/6 preps (90 min incl. optional rDNase digest) | Special Paraffin Dissolver (patented technology) – no xylene necessary – high decrosslinking efficiency |
| 54 | NucleoSpin® totalRNA FFPE | 740982.10 / .50 / .250 | < 10 sections (10 µm) with < 50 mg tissue | Mini spin column | 200 µg | Depending on sample amount and quality | 30–50 µL | | 70 min/6 preps (90 min incl. optional rDNase digest) | Special Paraffin Dissolver (patented technology) – no xylene necessary – high decrosslinking efficiency |
| **RNA from plant and fungi** | | | | | | | | | | |
| 55 | NucleoSpin® RNA Plant and Fungi | 740120.10 / .50 / .250 | < 500 mg plant / fungal material | Mini spin column | 200 µg | 20–70 µg | 50 µL | > 200 nt | 25 min/6 preps | Universal kit and tailored protocols for challenging plant and fungal samples \| Convenient handling and efficient isolation of high integrity RNA \| NucleoSpin® RNA Plant and Fungi Filters for lysate clearing included |
| **RNA from soil and stool** | | | | | | | | | | |
| 56 | NucleoBond® RNA Soil | 740140.20 | < 2 g soil | Midi gravity flow column | 600 µg | 1–10 µg | 100 µL | > 100 nt | 60 min/6 preps | Anion exchange technology to optimize RNA yield and purity – suitable for metagenomic studies \| Combination of mechanical homogenization and chemical lysis for large sample amounts |
| 57 | DNA Set for NucleoBond® RNA Soil | 740141.20 | NucleoBond® RNA Soil kit required | Buffer set | | 5–50 µg | 100 µL | | 15 min/12 preps | Parallel preparation of RNA and DNA in one hour |
| 58 | NucleoBond® RNA Soil Mini | 740142.10 / .50 | 0.25–0.5 g soil | Mini gravity flow column | 30 µg | 0.25–2.5 µg | 50–100 µL | > 100 nt | 60 min/12 preps | RNA purification from soil samples for qRT-PCR analysis \| Parallel preparation of RNA and DNA in one hour |
| 59 | DNA Set for NucleoBond® RNA Soil Mini | 740143.10 / .50 | NucleoBond® RNA Soil Mini kit required | Buffer set | | 1.25–12.5 µg | 50–100 µL | | 15 min/12 preps | Parallel preparation of RNA and DNA in one hour |
| 60 | NucleoSpin® RNA Stool | 740130.10 / .50 | 180–220 mg fresh or frozen human stool (for animal stool lower amounts may be required for optimal results) | Mini spin column | 200 µg | 10–30 µg (varies by sample and protocol used) | 100 µL | ≥ 18 nt | 70 min/10 preps | Total RNA isolation (incl. miRNA) from human and animal stool samples \| No Proteinase K treatment required \| NucleoSpin® PCR Inhibitor Removal Columns included |

[1)] Theoretical value

DNA

| No. | Product | REF | Typical amount of starting material | Format | Binding capacity[1] | Typical yield | Elution volume | Fragment size | Approximate processing time | Features |
|---|---|---|---|---|---|---|---|---|---|---|
| ■ DNA | | | | | | | | | | |
| DNA from blood and biological fluids | | | | | | | | | | |
| 61 | NucleoSpin® Blood | 740951.10 / .50 / .250 | 5–200 µL blood / serum / plasma, < 5 x $10^6$ human / animal cells | Mini spin column | 60 µg | 4–6 µg (200 µL blood) | 60–200 µL | 200 bp–approx. 50 kbp | 30 min/prep | High quality DNA from blood \| Also suitable for DNA from plasma, serum, buffy coat, and other body fluids \| Compatible with all blood stabilization substances (e.g., citrate, EDTA, heparin, CPDA) |
| 62 | NucleoSpin® Dx Blood (CE-IVD)[3] | 740899.50 / .250 | 200 µL human blood (fresh or frozen, EDTA, citrate, or heparin treated) | Mini spin column | 60 µg | 3–5 µg (200 µL blood) | 50–200 µL | 200 bp–approx. 50 kbp | 30 min/prep | CE-IVD marked isolation of gDNA from blood \| Compatible with several blood stabilization substances (citrate, EDTA, heparin) |
| 63 | NucleoSpin® Blood QuickPure | 740569.10 / .50 / .250 | 5–200 µL blood / serum / plasma, < 5 x $10^6$ human / animal cells | Mini spin column | 50 µg | 4–6 µg (200 µL blood) | 30–50 µL | 200 bp–approx. 50 kbp | 25 min/prep | Fast procedure \| Washing and drying combined in a single step \| Compatible with all blood stabilization substances (e.g., citrate, EDTA, heparin, CPDA) |
| 64 | NucleoSpin® Blood L | 740954.20 / .100 | 0.2–2 mL blood / serum / plasma, < 2 x $10^7$ human / animal cells | Midi spin column | 250 µg | 40–60 µg (2 mL blood) | 120–200 µL | 200 bp–approx. 50 kbp | 60 min/prep | For processing of larger blood volumes (0.2–2 mL) \| Compatible with all blood stabilization substances (e.g., citrate, EDTA, heparin, CPDA) |
| 65 | NucleoSpin® Blood L Vacuum | 740954.24 | 1–2 mL whole blood | Midi spin column | 250 µg | 50–80 µg (2 mL blood) | 2 x 300 µL | 300 bp–approx. 50 kbp | 75 min/24 preps | Parallel processing of 24 samples for time saving workflows (vacuum, positive pressure) \| Compatible with blood stabilization substances (e.g., citrate, EDTA) \| Automation possible |
| 66 | NucleoSpin® Blood XL | 740950.10 / .50 | 2–10 mL blood / serum / plasma, < $10^9$ human / animal cells | Maxi spin column | 700 µg | 200–300 µg (10 mL blood) | 600–2000 µL | 200 bp–approx. 50 kbp | 60 min/prep | For processing of large blood volumes (2–10 mL) \| Compatible with all blood stabilization substances (e.g., citrate, EDTA, heparin, CPDA) |
| 67 | NucleoSpin® 8 Blood, NucleoSpin® 8 Blood Core Kit[2], NucleoSpin® 96 Blood, NucleoSpin® 96 Blood Core Kit[2] | 740664 / .5, 740455.4, 740665.1 / .4 / .24, 740456.4 | < 200 µL blood / serum / plasma, < 2 x $10^6$ human / animal cells | 8-well strip, 96-well plate | 20 µg | 4–6 µg (200 µL blood) | 100 µL | 300 bp–approx. 50 kbp | 35 min/6 strips (excl. lysis), 70 min/plate (excl. lysis) | Flexible format \| Flexible processing (vacuum / centrifugation / positive pressure) \| Automation possible \| Compatible with blood stabilization substances (e.g., citrate, EDTA, heparin) |
| 68 | NucleoSpin® 8 Blood QuickPure, NucleoSpin® 96 Blood QuickPure | 740666 / .5, 740667.2 / .4 / .24 | < 200 µL blood / serum / plasma, < 5 x $10^6$ human / animal cells | 8-well strip, 96-well plate | 60 µg | 4–6 µg (200 µL blood) | 75–100 µL | 300 bp–approx. 50 kbp | 60 min/12 strips, 60 min/2 plates | Fast procedure and flexible format \| Manual processing by centrifuge \| Compatible with all blood stabilization substances (e.g., citrate, EDTA, heparin, CPDA) |
| 69 | NucleoMag® Blood 200 µL, NucleoMag® Blood 3 mL | 744501.1 / .4, 744502.1 | < 200 µL blood (fresh or frozen, EDTA or citrate treated), < 3 mL blood (fresh or frozen, EDTA or citrate treated) | Magnetic beads | 0.4 µg/µL beads | 2–8 µg (200 µL blood), 100–130 µg (3 mL blood) | 50–100 µL, 1000 µL | 300 bp–approx. 50 kbp | 40–120 min/96 preps[4], 60 min/24 preps[4] | Easily adapted to automated use \| Compatible with blood stabilization substances (e.g., citrate, EDTA) |
| cfDNA from plasma | | | | | | | | | | |
| 70 | NucleoSpin® cfDNA XS | 740900.10 / .50 / .250 | < 240 µL plasma / serum, < 720 µL plasma / serum (multiple loading steps) | Mini spin column (XS design) | | 25 pg–25 ng (240 µL plasma) | 5–30 µL | ≥ 50 bp | 20 min/6 preps | Special buffer chemistry for cell-free DNA from plasma and serum \| XS column design for elution in ≥ 5 µL for highest concentration |
| 71 | NucleoSpin® cfDNA Midi, NucleoSpin® cfDNA Midi Core Kit[2] | 740303.48, 740302.48 | 1–5 mL plasma (EDTA, Cell-Free DNA BCT®) | Midi spin column | | Depending on sample source, storage, and quality | | ≥ 50 bp | 90 min/24 preps | Superior recovery of fragmented cell-free DNA \| Parallel purification of 24 samples \| Special adapter set for NucleoVac 96 Vacuum Manifold available \| Optimized protocol for Cell-Free DNA BCT® (Streck) \| Automation possible |
| 72 | NucleoSpin® 96 cfDNA, NucleoSpin® 96 cfDNA Core Kit[2] | 740873.1 / .4, 740874.1 / .4 | 0.5–2 mL plasma | 96-well plate | | Depending on sample source, storage, and quality | | ≥ 50 bp | 90 min/plate | High throughput solution for cell-free DNA isolation \| Optimized protocol for Cell-Free DNA BCT® (Streck) \| Manual or automated processing (vacuum / centrifugation / positive pressure) |
| 73 | NucleoSnap® cfDNA | 740300.10 / .50 | 1–10 mL plasma (EDTA, Cell-Free DNA BCT®) | Snap off column | | Depending on sample source, storage, and quality | 20–100 µL | ≥ 50 bp | 45 min/6 preps | NucleoSnap® column for quick processing of large sample volumes by vacuum \| Highly efficient recovery of nucleic acids from "Liquid Biopsies" \| No carrier RNA needed |
| 74 | NucleoMag® cfDNA | 744550.1 / .4 | 1–10 mL human plasma (EDTA, Cell-Free DNA BCT®) | Magnetic beads | 0.3 µg/µL beads | Depending on sample source, storage, and quality | 50–200 µL | ≥ 50 bp | 60 min/24 preps (excl. lysis)[4] | Consistent cfDNA recovery from 1–10 mL plasma samples \| Efficient purification of fragmented DNA as small as 50 bp \| Automation possible |
| DNA from tissue and cells | | | | | | | | | | |
| 75 | NucleoSpin® DNA RapidLyse | 740100.10 / .50 / .250 | < 40 mg fresh weight, < $10^6$ cells | Mini spin column | 60 µg | 1–30 µg (depending on sample source) | 60–100 µL | 200 bp–approx. 50 kbp | 25 min/6 preps (excl. lysis) | Powerful lysis in one hour or less \| Unique lysis chemistry for gDNA from cells, tissues, and organs \| Superior DNA yields compared to standard extraction methods |
| 76 | NucleoSpin® 96 DNA RapidLyse | 740110.1 / .4 | < 30 mg fresh weight, < $10^6$ cells | 96-well plate | 40 µg | 1–30 µg (depending on sample source) | 100 µL | 200 bp–approx. 50 kbp | 60 min/plate (excl. lysis)[4] | Unique lysis chemistry for DNA from a variety of sample materials in one hour or less \| Manual or automated processing by vacuum, positive pressure, or centrifugation \| Easy automation on robotic platforms |
| 77 | NucleoSpin® Tissue XS | 740901.10 / .50 / .250 | 0.025–10 mg human / animal tissue, 10–$10^4$ human / animal cells, Guthrie cards (5–30 $mm^2$) | Mini spin column (XS design) | 50 µg | 0.1–0.5 ng ($10^2$ HeLa cells), 10–50 ng ($10^4$ HeLa cells) | 5–30 µL | 200 bp–approx. 50 kbp | 20 min/prep (excl. lysis) | Purification of genomic, bacterial, and viral DNA from smallest samples |
| 78 | NucleoSpin® Tissue | 740952.10 / .50 / .250 | < 25 mg human / animal tissue, $10^2$–$10^7$ human / animal cells | Mini spin column | 60 µg | 20–35 µg (25 mg mouse liver) | 60–100 µL | 200 bp–approx. 50 kbp | 20 min/prep (excl. lysis) | Allround genomic DNA purification kit for purification from clinical and forensic samples, tissues, cells, yeast, bacteria, or viruses |

[1] Theoretical value; [2] Kit mainly for use on automation platforms, for additional accessories and detailed information see *www.mn-net.com*; [3] Not available in the USA; [4] Depending on instrument type / setup / configuration. For more detailed infomation regarding the processing time and equipment (e.g., automation platform, purification manifolds), please have a look at *www.mn-net.com*.

# DNA

| No. | Product | REF | Typical amount of starting material | Format | Binding capacity[1] | Typical yield | Elution volume | Fragment size | Approximate processing time | Features |
|---|---|---|---|---|---|---|---|---|---|---|
| **DNA from tissue and cells** | | | | | | | | | | |
| 79 | NucleoSpin® 8 Tissue, NucleoSpin® 8 Tissue Core Kit[2], NucleoSpin® 96 Tissue, NucleoSpin® 96 Tissue Core Kit[2] | 740740 / .5, 740453.4, 740741.2 / .4 / .24, 740454.4 | < 20 mg human / animal tissue, < $10^6$ human / animal cells | 8-well strip, 96-well plate | 40 µg | 15–25 µg (20 mg human / animal tissue) | 100–200 µL | 300 bp–approx. 50 kbp | 20 min/6 strips (excl. lysis), 60 min/plate (excl. lysis) | Flexible format \| Flexible processing (vacuum / centrifugation / positive pressure) \| Automation possible \| Numerous support protocols facilitate processing for challenging sample materials |
| 80 | NucleoMag® Tissue | 744300.1 / .4 / .24 | < 20 mg human / animal tissue, < $10^6$ human / animal cells | Magnetic beads | 0.4 µg/µL beads | 10–20 µg (20 mg human / animal tissue) | 50–200 µL | 300 bp–approx. 50 kbp | 40–120 min/96 preps (excl. lysis)[3] | Efficient lysis and small elution volumes for highest concentrated DNA \| Easily adapted to automated use |
| 81 | NucleoSpin® DNA Lipid Tissue | 740471.10 / .50 | < 40 mg lipid rich tissue (e.g., brain, fish, adipose tissue) | Mini spin column | 60 µg | Depending on sample type, quality, and water content | 25–200 µL | 200 bp–approx. 50 kbp | 35 min/6 preps | Genomic DNA from tissue with a high lipid content \| Special buffer composition for efficient removal of lipids \| NucleoSpin® Bead Tubes for efficient lysis included \| Fast and convenient procedure without RNA contamination |
| 82 | NucleoSpin® DNA Insect | 740470.10 / .50 | < 40 mg fresh, frozen, dried, or ethanol preserved insect / crustacean sample | Mini spin column | 60 µg | < 25 µg (depending on sample and disruption device) | 25–200 µL | 200 bp–approx. 50 kbp | 35 min/6 preps | Suitable for insect or crustacean samples \| High quality DNA from fresh, frozen, dried or ethanol preserved specimen \| NucleoSpin® Bead Tubes for efficient lysis of an exoskeleton included \| Fast and convenient procedure |
| **DNA from FFPE samples** | | | | | | | | | | |
| 83 | NucleoSpin® DNA FFPE XS | 740980.10 / .50 / .250 | ≤ 7 sections (10 µm) of 250 $mm^2$ total area, < 15 mg paraffin | Mini spin column (XS design) | 50 µg | Depending on sample amount and quality | 5–30 µL | 50 bp–approx. 50 kbp | 70 min/6 preps (excl. lysis) | Odorless paraffin removal by patented Paraffin Dissolver \| No use of xylene needed \| Efficient removal of crosslinks \| Manual or automated processing |
| 84 | NucleoSpin® 8 DNA FFPE, NucleoSpin® 96 DNA FFPE | 740242 / .5, 740240.1 / .4 | ≤ 10 mg tissue / 7 sections (10 µm) of 250 $mm^2$ total area (< 15 mg paraffin) | 8-well strip, 96-well plate | 20 µg | Depending on amount and quality of sample | 100 µL | 50 bp–approx. 5 kbp | 60 min/6 strips or plate (excl. lysis) | Odorless paraffin removal by patented Paraffin Dissolver \| No use of xylene needed \| Efficient removal of crosslinks \| Manual or automated processing (vacuum / centrifugation / positive pressure) |
| 85 | NucleoMag® DNA FFPE | 744320.1 / .4 | ≤ 5 mg tissue (< 15 mg paraffin) | Magnetic beads | 0.4 µg/µL beads | Depending on amount and quality of sample | > 25 µL | 300 bp–approx. 5 kbp | 40–120 min/96 preps (excl. lysis)[3] | Odorless paraffin removal by patented Paraffin Dissolver \| No use of xylene needed \| Efficient removal of crosslinks \| Manual or automated processing (vacuum / centrifugation / positive pressure) |
| **DNA from forensic samples** | | | | | | | | | | |
| 86 | NucleoSpin® Forensic Filters, NucleoSpin® Forensic Filters (Bulk) | 740988.10 / .50 / .250, 740988.50B / .250B / .1000B | Swabs, denim, cigarette butts, and other solid sample carriers | Semipermeable mini spin tube | | | | | | Semipermeable mini spin tubes for incubation and lysate separation in one tube without buffer leakage (single blistered or bulk) |
| 87 | NucleoSpin® DNA Forensic | 740840.10 / .50 / .250 | Casework samples, contact traces (e.g., dried blood spots, cigarette filters, swabs) | Mini spin column | 7 µg | 1–3 µg from buccal swabs | 50–100 µL | | 20 min/prep (excl. lysis) | Excellent DNA purity from all casework samples \| Uniform buffer system for single sample (NucleoSpin® DNA Forensic) analysis and for high throughput analysis (NucleoMag® DNA Forensic) \| Conformity to ISO 18385 for doubtless DNA profiling |
| 88 | NucleoSpin® 8 Trace, NucleoSpin® 96 Trace | 740722.1 / .5, 740726.2 / .4 | Casework samples, contact traces (e.g., dried blood spots, cigarette filters, swabs) | 8-well strip, 96-well plate | 20 µg | Depending on sample amount and quality | 50–100 µL | 200 bp–approx. 50 kbp | 30 min/6 strips (excl. lysis), 70 min/plate (excl. lysis) | Flexible format \| Flexible processing (vacuum / centrifugation / positive pressure) \| Automation possible |
| 89 | NucleoMag® DNA Forensic | 744660.1 / .4 | Casework samples, contact traces (e.g., dried blood spots, cigarette filters, swabs) | Magnetic beads | 0.4 µg/µL beads | 1–3 µg from buccal swabs | 25–50 µL | | 40–120 min/96 preps (excl. lysis)[3] | Excellent DNA purity from all casework samples \| Uniform buffer system for single sample (NucleoSpin® DNA Forensic) analysis and for high throughput analysis (NucleoMag® DNA Forensic) \| Conformity to ISO 18385 for doubtless DNA profiling \| Automation possible |
| **DNA from plant and fungi** | | | | | | | | | | |
| 90 | NucleoSpin® Plant II | 740770.10 / .50 / .250 | < 100 mg (wet weight), < 20 mg (dry weight) plant tissue | Mini spin column | 50 µg | 1–30 µg (100 mg plant tissue, wet weight) | 50–100 µL | 50 bp–approx. 50 kbp | 30 min/prep | Two optional lysis buffers (based on CTAB or SDS) for optimal lysis |
| 91 | NucleoSpin® Plant II Midi | 740771.20 | < 400 mg (wet weight), < 80 mg (dry weight) plant tissue | Midi spin column | 200 µg | 10–100 µg (400 mg plant tissue, wet weight) | 200–400 µL | 50 bp–approx. 50 kbp | 90 min/prep | For processing of large plant samples \| NucleoSpin® Midi Filters and RNase A included |
| 92 | NucleoSpin® Plant II Maxi | 740772.10 | < 1500 mg (wet weight), < 300 mg (dry weight) plant tissue | Maxi spin column | 500 µg | 50–300 µg (1500 mg plant tissue, wet weight) | 1000–2000 µL | 50 bp–approx. 50 kbp | 90 min/prep | For processing of larger plant samples \| NucleoSpin® Maxi Filters and RNase A included |
| 93 | NucleoSpin® 8 Plant II, NucleoSpin® 8 Plant II Core Kit[2], NucleoSpin® 96 Plant II, NucleoSpin® 96 Plant II Core Kit[2] | 740669 / .5, 740467.4, 740663.2 / .4 / .24, 740468.4 | 20–100 mg (wet weight) plant tissue | 8-well strip, 96-well plate | 30 µg | 1–30 µg (100 mg plant tissue, wet weight) | 100–200 µL | 50 bp–approx. 50 kbp | 60 min/6 strips or plate (excl. lysis) | Flexible format \| Flexible processing (vacuum / centrifugation / positive pressure) \| Automation possible |
| 94 | NucleoMag® Plant | 744400.1 / .4 / .24 | 20–50 mg (wet weight) plant tissue | Magnetic bead | 0.4 µg/µL beads | 10–20 µg (50 mg plant tissue, wet weight) | 50–200 µL | 300 bp–approx. 50 kbp | 40–120 min/96 preps (excl. lysis)[3] | Easily adapted to automated use |
| 95 | NucleoMag® 384 Plant | 744402.1 / .4 | 30 mg (wet weight) | Magnetic bead | 0.2 µg/µL beads | Depending on sample source | 50–200 µL | 300 bp–approx. 50 kbp | 40–120 min/96 preps, 60 min/384 preps (excl. lysis)[3] | Easily adapted to automated use \| Tailored preparation of DNA from plant samples in a 384-well format |

[1] Theoretical value; [2] Kit mainly for use on automation platforms, for additional accessories and detailed information see *www.mn-net.com*; [3] Depending on instrument type / setup / configuration. For more detailed infomation regarding the processing time and equipment (e.g., automation platform, purification manifolds), please have a look at *www.mn-net.com*.



DNA

DNA

DNA · Viral RNA and DNA





| No. | Product | REF | Typical amount of starting material | Format | Binding capacity[1] | Typical yield | Elution volume | Fragment size | Approximate processing time | Features |
|---|---|---|---|---|---|---|---|---|---|---|
| **DNA from microorganisms** | | | | | | | | | | |
| 96 | NucleoSpin® Microbial DNA | 740235.10 / .50 / .250 | < 40 mg wet weight cell pellet (bacteria, yeast, fungi) | Mini spin column | 60 µg | Depending on sample type and disruption; approx. 5–25 µg (30 mg wet weight) | 100–200 µL | 200 bp–approx. 50 kbp | 35 min/prep | Suitable for a large variety of starting materials \| NucleoSpin® Bead Tubes for efficient lysis included \| Fast and easy procedure \| Liquid Proteinase K included, no additional enzyme required |
| **DNA from soil and stool** | | | | | | | | | | |
| 97 | NucleoSpin® Soil | 740780.10 / .50. / .250 | < 500 mg soil / sludge / sediment | Mini spin column | 50 µg | 2–10 µg (500 mg soil) | 30–100 µL | 50 bp–approx. 50 kbp | 90 min/10 preps | Two lysis buffers and a special additive for optimal lysis and complete removal of inhibitors \| NucleoSpin® Bead Tubes and NucleoSpin® Inhibitor Removal Column included |
| 98 | NucleoSpin® 8 Soil, NucleoSpin® 96 Soil | 740779 740787.2 / .4 | < 500 mg soil / sludge / sediment | 8-well strip, 96-well plate | 50 µg | 2–10 µg (500 mg soil) | 100–200 µL | 50 bp–approx. 50 kbp | 150 min/6 strips or plate | NucleoSpin® Bead Tubes and NucleoSpin® Inhibitor Removal Strips / Plate included |
| 99 | NucleoSpin® DNA Stool | 740472.10 / .50 / .250 | 180–220 mg fresh or frozen human stool (for animal stool lower amounts may be required for optimal results) | Mini spin column | 50 µg | 2–10 µg (depending on sample and disruption device) | 30–100 µL | 200 bp–approx. 50 kbp | 60 min/10 preps | Suitable for any stool sample – high quality DNA from stool from carnivores, omnivores, and herbivores \| NucleoSpin® Bead Tubes for efficient lysis included \| NucleoSpin® Inhibitor Removal Columns ensure highest purity of the isolated DNA |
| **DNA from food and feed** | | | | | | | | | | |
| 100 | NucleoSpin® Food | 740945.10 / .50 / .250 | < 200 mg food / feed | Mini spin column | 30 µg | 0.1–10 µg (200 mg food) | 100 µL | 300 bp–approx. 50 kbp | 30 min/6 preps | Suitable for complex food matrices \| Removal of PCR inhibitors |
| 101 | NucleoSpin® 8 Food, NucleoSpin® 96 Food | 740975 / .5, 740976.2 / .4 | < 200 mg food / feed | 8-well strip, 96-well plate | 30 µg | 0.1–10 µg (200 mg food) | 100–200 µL | 300 bp–approx. 50 kbp | 60 min/6 strips (excl. lysis), 120 min/plate (excl. lysis) | Flexible format \| Flexible processing (vacuum / centrifugation / positive pressure) \| Automation possible \| Removal of PCR inhibitors |
| 102 | NucleoMag® DNA Food | 744945.1 / .4 | < 200 mg food / feed | Magnetic beads | 0.4 µg/µL beads | 0.1–10 µg (depending on sample type) | 50–200 µL | 300 bp–approx. 50 kbp | 40–120 min/96 preps (excl. lysis)[3] | Suitable for species identification / GMO detection \| Extraction of DNA from contaminating bacteria (food safety) \| Kit chemistry allows full sample flexibility \| Removal of PCR inhibitors for enhanced results \| Get even low amounts of partially degraded DNA from complex matrices \| Easily adapted to automated use |
| **Direct PCR** | | | | | | | | | | |
| 103 | NucleoType Blood PCR | 743201.25 / .100 / .500 | Whole blood from human and animal samples / punches from blood storage cards | Transfer tools, PCR mix, Inhibitor Removal Pearls | | | | Recommended for up to 1 kbp | < 1 min, 30-90 min PCR cycling (depending on cycler protocol) | Pretreatment of challenging blood samples with Inhibitor Removal Pearls \| Transfer of blood aliquot with the Blood Transfer Tool |
| 104 | NucleoType Mouse PCR | 743200.25 / .100 / .500 | Mouse tail clipping (1 mm), mouse ear punch (Ø 1 mm), mouse blood (1 µL), mouse hairs (approx. 3–30) | Buffer, PCR mix, and Liquid Proteinase K | | | | Recommended for up to 1 kb | 5 min/prep (DNA release) 30–90 min PCR cycling (depending on cycler protocol) | Kit for rapid mouse typing experiments with common samples such as tail clips, ear punch, hair, and blood \| Efficient lysis buffer allows DNA preparation within 5 minutes \| HotStart PCR Master Mix with agarose gel loading dye included |
| **■ Viral RNA and DNA** | | | | | | | | | | |
| **Viral RNA / DNA from blood and biological fluids** | | | | | | | | | | |
| 105 | NucleoSpin® Virus | 740983.10 / .50 / .250 | < 200 µL serum / plasma / cell-free biological fluid, < 400 µL (with two loading steps) | Mini spin column | 25 µg | Depending on sample amount and quality | 30 µL | 100 bp–approx. 50 kbp | 50 min/6 preps | For RNA and DNA viruses from plasma / serum or cell-free body fluids \| Carrier RNA and Liquid Proteinase K included |
| 106 | NucleoSpin® Dx Virus (CE-IVD)[4] | 740895.50 | 150 µL serum / plasma | Mini spin column | 40 µg | Depending on sample amount and quality | 50 µL | 100 bp–approx. 50 kbp | 30 min/6 preps | CE-IVD marked \| For RNA and DNA viruses from plasma and serum \| Carrier RNA and Proteinase K included |
| 107 | NucleoSpin® RNA Virus F | 740958 | < 1 mL serum / plasma / cell-free biological fluid | Funnel column | 30 µg | Depending on sample amount and quality | 50–100 µL | 100 bp–approx. 50 kbp | 45 min/6 preps | NucleoSpin® Funnel Columns: large buffer volumns, small elution volumes |
| 108 | NucleoSpin® 8 Virus, NucleoSpin® 8 Virus Core Kit[2], NucleoSpin® 96 Virus, NucleoSpin® 96 Virus Core Kit[2] | 740643 / .5, 740451.4, 740691.2 / .4, 740452.4 | < 150 µL serum / plasma / cell-free biological fluid | 8-well strip, 96-well plate | 40 µg | Depending on sample amount and quality | 70–100 µL | 100 bp–approx. 50 kbp | 60 min/6 strips or plate | Flexible format \| Flexible processing (vacuum / centrifugation / positive pressure) \| Automation possible \| Proteinase K included |
| 109 | NucleoMag® Virus | 744800.1 / .4 | < 200 µL serum / plasma / cell-free biological fluid | Magnetic beads | 0.2 µg/µL beads | Depending on sample amount and quality | 50–100 µL | 300 bp–approx. 50 kbp | 40–120 min/96 preps[3] | Proteinase K included \| Easily adapted to automated use |
| 110 | NucleoSpin® Blood | 740951.10 / .50 / .250 | 5–200 µL blood / serum / plasma, < 5 x $10^6$ human / animal cells | Mini spin column | 60 µg | 4–6 µg (200 µL blood) | 60–200 µL | 200 bp–approx. 50 kbp | 30 min/prep | All purpose effectiveness compatible with all blood stabilization substances (e.g., citrate, EDTA, heparin, CPDA) I Suitable for pathogen detection by isolation of viral DNA or bacterial DNA from blood samples |
| **Viral RNA / DNA and bacterial DNA from clinical samples** | | | | | | | | | | |
| 111 | NucleoMag® Pathogen | 744210.1/.4 | Fully scalable, typically < 200 µL whole blood / serum / plasma / swab wash solution / feces, < 25 mg tissue | Magnetic beads | 0.4 µg/µL beads | Depending on sample amount and quality | 50–100 µL | 300 bp–approx. 50 kbp | 40–120 min/96 preps[3] | One kit for all common clinical sample types \| High sensitivity \| Reliable nucleic acid isolation – suitable even for low viral titers \| Easily adapted to automated use |
| **Viral RNA / DNA and bacterial DNA from veterinary samples** | | | | | | | | | | |
| 112 | NucleoMag® VET | 744200.1 / .4 | < 200 µL whole blood / serum / plasma / swab wash solution / feces, < 10–30 mg tissue (e.g., ear notches) | Magnetic beads | 0.4 µg/µL beads | Depending on sample amount and quality | 50–100 µL | 300 bp–approx. 50 kbp | 40–120 min/96 preps[3] | Allround kit for veterinary diagnostics \| One tube procedure for minimal risk of cross-contamination \| Easily adapted to automated use |

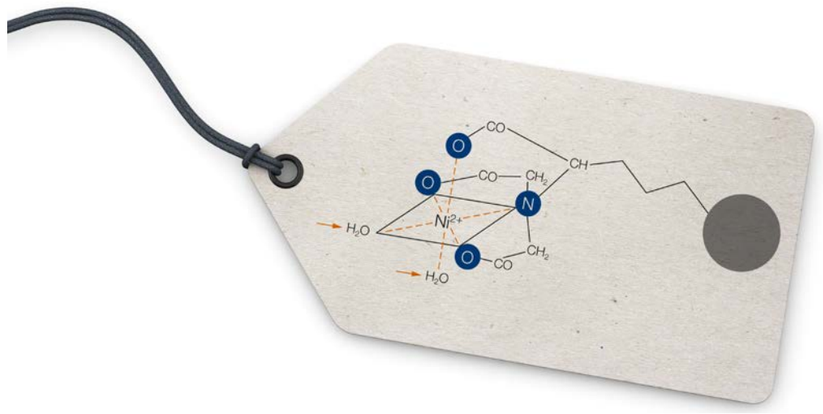
[1] Theoretical value; [2] Kit mainly for use on automation platforms, for additional accessories and detailed information see *www.mn-net.com*; [3] Depending on instrument type / setup / configuration. For more detailed infomation regarding the processing time and equipment (e.g., automation platform, purification manifolds), please have a look at *www.mn-net.com*.; [4] Not available in the USA

# Protein purification

Protein purification

| No. | Product | REF | Format | Binding capacity[1)] | Matrix | Ligand | Features |
|---|---|---|---|---|---|---|---|
| ■ Protein purification | | | | | | | |
| Purification of His-tag proteins | | | | | | | |
| 113 | Protino® Ni-NTA Agarose | 745400.25 / .100 / .500 | Aqueous suspension | 50 mg/mL | 6 % beaded agarose (crosslinked) | NTA | 50 % (v/v) aqueous suspension precharged with $Ni^{2+}$ \| Suitable for batch binding, gravity flow columns, and FPLC™ applications |
| 114 | Protino® Ni-NTA Columns 1 mL | 745410.5 | 1 mL FPLC™ column | 50 mg | 6 % beaded agarose (crosslinked) | NTA | Ready to use prepacked FPLC™ columns \| Agarose precharged with $Ni^{2+}$ \| Male and female outlet for ÄKTA™ platform \| Adaptors for other systems available |
| 115 | Protino® Ni-NTA Columns 5 mL | 745415.1 / .5 | 5 mL FPLC™ column | 250 mg | 6 % beaded agarose (crosslinked) | NTA | Ready to use prepacked FPLC™ columns \| Agarose precharged with $Ni^{2+}$ \| Male and female outlet for ÄKTA™ platform \| Adaptors for other systems available |
| 116 | Protino® 96 Ni-NTA | 745425.1 / .4 | 96-well plate | 2 mg/well | 6 % beaded agarose (crosslinked) | NTA | Unique Protein Purification Plate \| Leak-free incubation \| Agarose precharged with $Ni^{2+}$ \| Suitable for centrifugation and vacuum \| Automation possible |
| 117 | Protino® Ni-TED Resin | 745200.5 / .30 / .120 / .600 | Bulk resin | 10 mg/g resin | Macroporous silica | TED | Dry matrix precharged with $Ni^{2+}$ \| Suitable for batch binding, gravity flow columns, and FPLC™ applications \| Unique silica concept |
| 118 | Protino® Ni-TED 150 Packed Columns | 745100.10 / .50 | Mini gravity flow column | 400 µg | Macroporous silica | TED | Ready to use gravity flow columns \| Matrix precharged with $Ni^{2+}$ \| Buffers included \| Unique silica concept |
| 119 | Protino® Ni-TED 1000 Packed Columns | 745110.5 / .50 | Midi gravity flow column | 2.5 mg | Macroporous silica | TED | Ready to use gravity flow columns \| Matrix precharged with $Ni^{2+}$ \| Buffers included \| Unique silica concept |
| 120 | Protino® Ni-TED 2000 Packed Columns | 745120.5 / .25 | Maxi gravity flow column | 5 mg | Macroporous silica | TED | Ready to use gravity flow columns \| Matrix precharged with $Ni^{2+}$ \| Buffers included \| Unique silica concept |
| 121 | Protino® Ni-IDA Resin | 745210.5 / .30 / .120 / .600 | Bulk resin | 20 mg/g resin | Macroporous silica | IDA | Dry matrix precharged with $Ni^{2+}$ \| Suitable for batch binding, gravity flow columns, and FPLC™ applications \| Unique silica concept |
| 122 | Protino® Ni-IDA 150 Packed Columns | 745150.10 / .50 | Mini gravity flow column | 800 µg | Macroporous silica | IDA | Ready to use gravity flow columns \| Matrix precharged with $Ni^{2+}$ \| Buffers included \| Unique silica concept |
| 123 | Protino® Ni-IDA 1000 Packed Columns | 745160.5 / .50 | Midi gravity flow column | 5 mg | Macroporous silica | IDA | Ready to use gravity flow columns \| Matrix precharged with $Ni^{2+}$ \| Buffers included \| Unique silica concept |
| 124 | Protino® Ni-IDA 2000 Packed Columns | 745170.5 / .25 | Maxi gravity flow column | 10 mg | Macroporous silica | IDA | Ready to use gravity flow columns \| Matrix precharged with $Ni^{2+}$ \| Buffers included \| Unique silica concept |
| 125 | Protino® 96 Ni-IDA | 745300.1 / .4 | 96-well plate | 1 mg/well | Macroporous silica | IDA | Ready to use gravity flow 96-well plates \| Matrix precharged with $Ni^{2+}$ \| Buffers included \| Unique silica concept |
| Purification of GST-tag proteins | | | | | | | |
| 126 | Protino® Glutathione Agarose 4B | 745500.10 / .100 | Aqueous suspension | 8 mg/mL | 4 % beaded agarose | Glutathione | 75 % (v/v) aqueous suspension \| Suitable for batch binding, gravity flow columns, and FPLC™ applications |
| 127 | Protino® GST/4B Columns 1 mL | 745510.5 | 1 mL FPLC™ column | 10 mg | 4 % beaded agarose | Glutathione | Ready to use prepacked FPLC™ columns \| Male and female outlet for ÄKTA™ platform \| Adaptors for other systems available |
| 128 | Protino® GST/4B Columns 5 mL | 745515.1 / .5 | 5 mL FPLC™ column | 50 mg | 4 % beaded agarose | Glutathione | Ready to use prepacked FPLC™ columns \| Male and female outlet for ÄKTA™ platform \| Adaptors for other systems available |

[1)] Protino® Ni-IDA / TED / NTA: binding capacity refers to 6xHis-GFPuv; Protino® Glutathione Agarose 4B: binding capacity will vary for each GST-tagged protein.



# Selection Guide

## Technologies

| | Technology | Separation principle | Material | Format |
|---|---|---|---|---|
| NucleoBond® | Anion exchange chromatography | Solid phase extraction | Modified, macroporous silica particles | Gravity flow columns (from small to giga format) / 96-well plates |
| NucleoFast® | Ultrafiltration | Ultrafiltration | Ultrafiltration membrane | 96-well plates |
| NucleoMag® | Magnetic bead technology | Chaotropic salt binding / Nucleic acid precipitation | Superparamagnetic beads (non silica) | Flexible (1–384) |
| NucleoSEQ® | Gel filtration | Size exclusion | Size exclusion matrix | Mini spin columns filled with dry matrix |
| NucleoSnap® | Silica membrane technology | Nucleic acid precipitation and filtration or chaotropic salt binding | Silica membrane | Snap off column |
| NucleoSpin® | Silica membrane technology | Chaotropic salt binding | Silica membrane | Spin columns (from extra small to extra large scale) / 8-well strips / 96-well plates |
| NucleoType | Sample preparation and PCR | DNA release and direct PCR | HotStart PCR Master Mix (enhancer, loading dye, and stabilizer included) | Buffer and PCR mix |
| Protino® Ni-IDA / TED | Affinity chromatography | Interaction between His-tag of the recombinant protein and immobilized $Ni^{2+}$ ions, elution with imidazole | Macroporous silica with immobilized $Ni^{2+}$ | Dry material, gravity flow columns (Midi, Midi, Maxi) / 96-well plates |
| Protino® Ni-NTA Agarose | Affinity chromatography | Interaction between His-tag of the recombinant protein and immobilized $Ni^{2+}$ ions, elution with imidazole | 6 % beaded agarose (cross-linked), precharged with $Ni^{2+}$ \| 50 % aqueous suspension containing 30 % ethanol | Bulk material / columns for FPLC™ / 96-well plates |
| Protino® Glutathione Agarose 4B | Affinity chromatography | Interaction between the GST-tag of the recombinant protein and immobilized glutathione | 4 % beaded agarose with immobilized glutathione \| 75 % aqueous suspension containing 20 % ethanol | Bulk resin / columns for FPLC™ |

If further assistance is requested, please contact our Technical Support and Customer Service:

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