

MACHEREY-NAGEL

DNA guide

Bioanalysis



Isolate DNA the easy and efficient way

- Optimal lysis efficiency for various sample materials
- Short preparation times with best results
- New solutions for Direct PCR

MACHEREY-NAGEL

www.mn-net.com



DNA guide

The world of DNA

The importance of high quality DNA has increased with emergence of more detailed DNA analysis like Real-time, multiplex PCR or NGS. Therefore, choosing a DNA isolation system is becoming more and more a key issue of research. Efficient lysis of sample material as well as a thorough removal of contaminants are crucial steps, which can influence the result of downstream analysis in the end.

Choose MN for your DNA application

MN has been a reliable partner for DNA purification for years. Due to the excellent experience in nucleic acid purification, the MN research and technical support team knows all about pitfalls during DNA purification. Therefore, MN developed a variety of optimized solutions for processing your sample material of choice.

Furthermore, a continuous development is always important for us. Therefore, we have developed the new NucleoType product line enabling a convenient sample preparation combined with Direct PCR analysis. Now we are proud to present our first NucleoType products, and it will be an ongoing process to enlarge the new product line for Direct PCR.

We invite you to take advantage of our excellent DNA solutions as well as our team of scientific experts from MACHEREY-NAGEL.

DNA purification technologies

	NucleoSpin®	NucleoSpin® 8	NucleoSpin® 96	NucleoSnap®	NucleoMag®
Technology	Silica membrane	Silica membrane	Silica membrane	Precipitation and filtration	Magnetic bead
Format	XS, Mini, Midi, Maxi	8-well	96-well	Midi snap off column	Flexible
Processing	Vacuum / centrifugation	Vacuum / centrifugation	Vacuum / centrifugation	Vacuum (centrifugation for elution)	Magnet

Icon annotation

- XS** Mini spin column for microcentrifuge tubes (1.5 mL or 2 mL). A funnel shaped thrust ring is holding a silica membrane of 2.0 mm diameter for extra small elution volumes
- Mini** Mini spin column for microcentrifuge tubes (1.5 mL or 2 mL)
- Midi** 15 mL NucleoSpin® Midi or NucleoSpin® L Column for centrifuges
- Maxi** 50 mL NucleoSpin® Maxi or NucleoSpin® XL Column for centrifuges
- PCR** Sample preparation with PCR master mix for Direct PCR

- Snap** Disposable funnel container combined with a mini spin column for vacuum processing (e.g., using NucleoVac 24 Vacuum Manifold), and subsequent centrifugation for elution in a microcentrifuge tube (1.5 mL or 2 mL)
- Mag** Superparamagnetic beads
- 8-well** Mini spin columns in 8-well strip format
- 96-well** Mini spin columns in 96-well plate format



DNA guide

Kits for DNA isolation

Sample material	Scale	Product	Page
Blood	Mini	NucleoSpin® Blood	4
		NucleoSpin® Dx Blood	5
		NucleoSpin® Blood QuickPure	6
	Midi	NucleoSpin® Blood L	4
		NucleoSpin® Blood L Vacuum	7
	Maxi	NucleoSpin® Blood XL	4
	8-well strip / 96-well plate	NucleoSpin® 8 / 96 Blood	4
		NucleoSpin® 8 / 96 Blood QuickPure	6
	Flexible	NucleoMag® Blood 200 µL	8
		NucleoMag® Blood 3 mL	8
Plasma	Mini	NucleoSpin® Plasma XS	9
	Midi	NucleoSpin® DNA Plasma Midi	9
	Snap	NucleoSnap® DNA Plasma	10
	96-well plate	NucleoSpin® 96 DNA Plasma	9
	Flexible	NucleoMag® DNA Plasma	11
Cells and tissue	Micro	NucleoSpin® Tissue XS	13
	Mini	NucleoSpin® DNA RapidLyse	12
		NucleoSpin® Tissue	13
		NucleoSpin® DNA Lipid Tissue	15
	8-well strip / 96-well plate	NucleoSpin® 8 / 96 Tissue	13
	96-well plate	NucleoSpin® 96 DNA RapidLyse	12
	Flexible	NucleoMag® Tissue	14
Insects	Mini	NucleoSpin® DNA Insect	16
FFPE	Micro	NucleoSpin® DNA FFPE XS	17
	8-well strip / 96-well plate	NucleoSpin® 96 DNA FFPE	17
	Flexible	NucleoMag® DNA FFPE	18
Forensic	Mini	NucleoSpin® DNA Forensic	19
	Flexible	NucleoMag® DNA Forensic	20
Plant and fungi	Mini	NucleoSpin® Plant II	22
	Midi	NucleoSpin® Plant II Midi	22
	Maxi	NucleoSpin® Plant II Maxi	22
	8-well strip / 96-well plate	NucleoSpin® 8 / 96 Plant II	22
	Flexible	NucleoMag® Plant / 384 Plant	23
Microorganisms	Mini	NucleoSpin® Microbial DNA	24
Soil	Mini	NucleoSpin® Soil	25
	8-well strip / 96-well plate	NucleoSpin® 8 / 96 Soil	25
Stool	Mini	NucleoSpin® DNA Stool	26
Food	Mini	NucleoSpin® Food	27
	8-well strip / 96-well plate	NucleoSpin® 8 / 96 Food	27
	Flexible	NucleoMag® DNA Food	28

Kits for DNA amplification






Sample material	Scale	Product	Page
Blood	Flexible	NucleoType Blood PCR	29
Mouse	Flexible	NucleoType Mouse PCR	30

DNA from blood

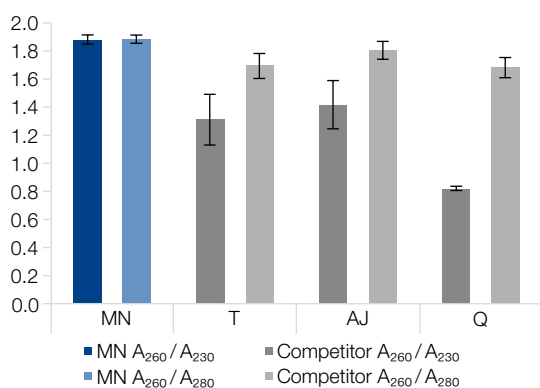
NucleoSpin® Blood

For rapid purification of high quality DNA from blood in single to high throughput format

- All-purpose effectiveness compatible with all blood stabilization substances (e.g., citrate, EDTA, heparin, CPDA)
- Pathogen detection by isolation of viral DNA or bacterial DNA from blood samples

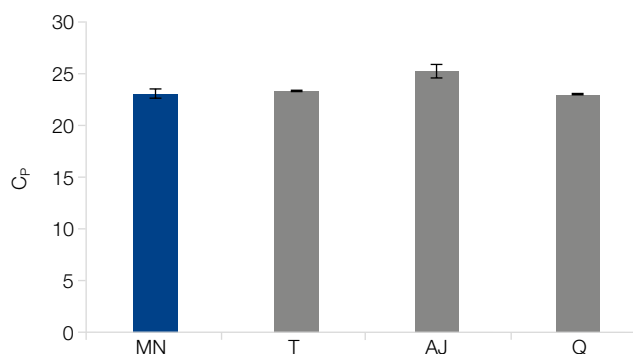
	 Mini NucleoSpin® Blood	 Midi NucleoSpin® Blood L	 Maxi NucleoSpin® Blood XL	 8-well NucleoSpin® 8 Blood	 96-well NucleoSpin® 96 Blood
Technology	Silica membrane technology	Silica membrane technology	Silica membrane technology	Silica membrane technology	Silica membrane technology
Sample material	(Blood (5–200 µL), human / animal cells (<math> < 5 \times 10^6 </math>))	Blood (0.2–2 mL), human / animal cells (2×10^7)	Blood (2–10 mL), human / animal cells (10^8)	Blood (<math> < 200 \mu\text{L}</math>), human / animal cells (2×10^6)	Blood (<math> < 200 \mu\text{L}</math>), human / animal cells (2×10^6)
Fragment size	200 bp–approx. 50 kbp	200 bp–approx. 50 kbp	200 bp–approx. 50 kbp	300 bp–approx. 50 kbp	300 bp–approx. 50 kbp
Typical yield	4–6 µg (200 µL blood)	40–60 µg (2 mL blood)	200–300 µg (10 mL blood)	4–6 µg	4–6 µg
Elution volume	60–200 µL	120–200 µL	600–2000 µL	100 µL	100 µL
Binding capacity	60 µg	250 µg	700 µg	20 µg	20 µg
Preparation time	30 min/prep	60 min/prep	60 min/prep	35 min/6 strips	70 min/plate

Application data



Superior purification with the NucleoSpin® Blood kit

DNA was isolated from human blood samples ($n = 3$) using the NucleoSpin® Blood kit and competitor kits from T, AJ and Q (light grey bars for A_{260}/A_{280} and dark grey bars for A_{260}/A_{230} ratios). The purity was determined by UV-spectrometry resulting in an average A_{260}/A_{280} value for the NucleoSpin® Blood kit of 1.89 ± 0.03 (dark blue bar) and an average A_{260}/A_{230} value (light blue bar) of 1.88 ± 0.03 .



Competitive sensitivity measured by qPCR

DNA was extracted from human blood samples with the NucleoSpin® Blood kit (dark blue bar) and the competitor kits from T, AJ and Q (grey bars). Samples were analyzed in triplicate by qPCR for β -globin (268 bp). With an average amplification cycle of 23.1 the results demonstrate the competitive performance and reliably high quality of DNA extraction with the NucleoSpin® Blood kit.

Reference

Kaenel *et al.* 2014 "Leukocyte telomere length and hemostatic factors in a South African cohort: the SABPA Study"

Journal of Thrombosis and Haemostasis

Ordering information

Product	Preps	REF
NucleoSpin® Blood	10 / 50 / 250	740951.10 / .50 / .250
NucleoSpin® Blood L	20	740954.20
NucleoSpin® Blood XL	10 / 50	740950.10 / .50
NucleoSpin® 8 Blood	12 x 8 / 60 x 8	740664 / .5
NucleoSpin® 8 Blood Core Kit*	48 x 8	740455.4
NucleoSpin® 96 Blood	1 x 96 / 4 x 96 / 24 x 96	740665.1 / .4 / .24
NucleoSpin® 96 Blood Core Kit*	4 x 96	740456.4

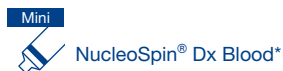
* Kits with basic content focusing on automatic platforms. Additional accessories can be combined as needed.

DNA from blood

NucleoSpin® Dx Blood*

For certified purification of high quality DNA from human blood samples

- CE-IVD certification in compliance with EU directive 98/79/EC for *in-vitro* diagnostic applications
- All-purpose effectiveness compatible with all blood stabilization substances (citrate, EDTA, heparin)



Technology	Silica membrane technology
Sample material	Whole blood (200 µL)
Fragment size	200 bp–approx. 50 kbp
Typical yield	3–5 µg (depending on individual blood sample)
Elution volume	50–200 µL
Preparation time	30 min/prep

Ordering information

Product	Preps	REF
NucleoSpin® Dx Blood*	50 / 250	740899.50 / .250

* CE-IVD marked kit: not available in all countries, please inquire.






DNA from blood

NucleoSpin® Blood QuickPure

For ultrafast purification of highly concentrated DNA from blood

- Optimal for viscous or clotted blood (e.g., animal blood) to prevent membrane clogging
- Easy handling due to combined washing and drying in one step

	 NucleoSpin® Blood QuickPure	 NucleoSpin® 8 Blood QuickPure	 NucleoSpin® 96 Blood QuickPure
Technology	Silica membrane technology	Silica membrane technology	Silica membrane technology
Sample material	Blood (5–200 µL), human / animal cells (5 x 10 ⁶)	Blood (< 300 µL)*, human / animal cells (5 x 10 ⁶)	Blood (< 300 µL)*, human / animal cells (5 x 10 ⁶)
Fragment size	200 bp–approx. 50 kbp	300 bp–approx. 50 kbp	300 bp–approx. 50 kbp
Typical yield	4–6 µg (200 µL blood)	4–6 µg (200 µL blood)	4–6 µg (200 µL blood)
Elution volume	30–50 µL	75–100 µL	75–100 µL
Binding capacity	50 µg	60 µg	60 µg
Preparation time	25 min/prep	60 min/12 strips	60 min/plate

* For preparation of 300 µL samples increased volumes of Lysis Buffer BQ1 required.

Ordering information

Product	Preps	REF
NucleoSpin® Blood QuickPure	10 / 50 / 250	740569.10 / .50 / .250
NucleoSpin® 8 Blood QuickPure	12 x 8 / 60 x 8	740666 / .5
NucleoSpin® 96 Blood QuickPure	2 x 96 / 4 x 96 / 24 x 96	740667.2 / .4 / .24
Related product		
Buffer BQ1	125 mL	740923



DNA from blood

NucleoSpin® Blood L Vacuum

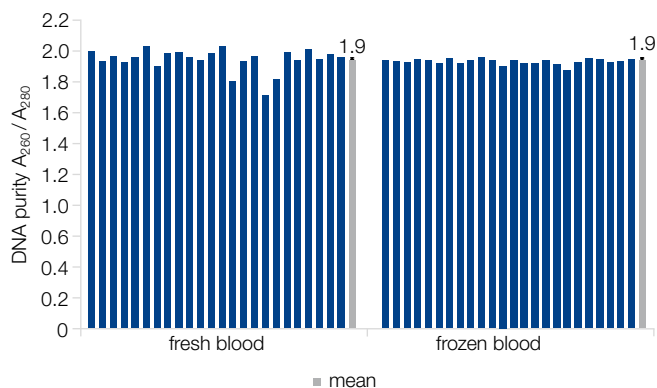
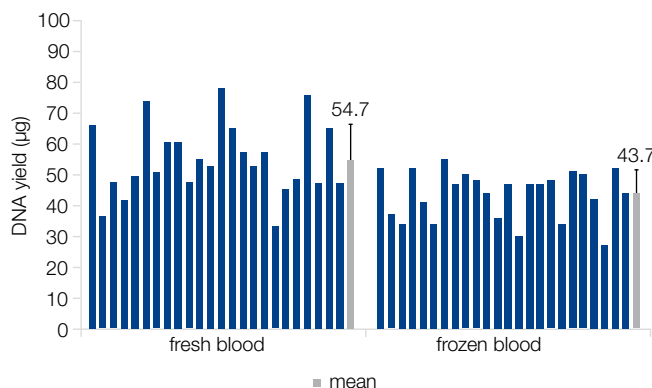
DNA purification from up to 2 mL whole blood using vacuum filtration

- Complete removal of PCR inhibitors allows reliable downstream analysis
- Parallel purification of 24 samples for time saving workflows



Technology	Silica membrane technology
Sample material	Blood (1–2 mL)
Fragment size	200 bp–approx. 50 kbp
Typical yield	50–80 µg (2 mL blood)
Elution volume	2 x 300 µL
Binding capacity	250 µg
Preparation time	75 min/24 preps

Application data



Yield and purity of purified DNA from individual blood samples

The DNA purification reproducibility was measured using pooled blood samples. DNA yield and purity were determined by UV spectroscopy. Highly reproducible results were obtained when using pooled blood samples, which demonstrates the robustness of the purification method.

Ordering information



Product	Preps	REF
NucleoSpin® Blood L Vacuum	24	740954.24
Related Products		
NucleoVac Vacuum Manifold	1	740681
NucleoVac Vacuum Regulator	1	740641
Starter Set Midi	1	740744

DNA from blood

NucleoMag® Blood

Magnetic bead based isolation of genomic DNA from whole blood

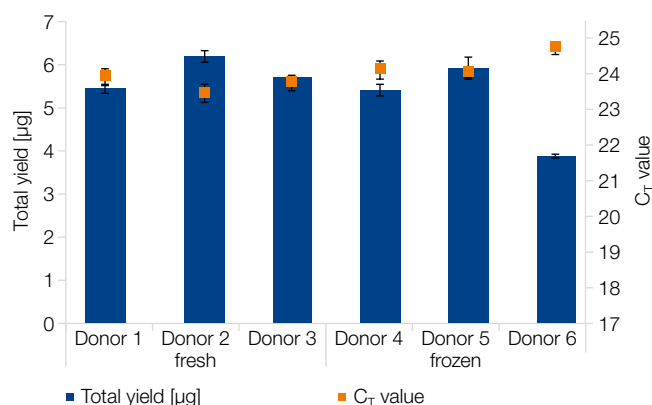
- Minimal sized beads for prolonged optimized binding and slowed sedimentation
- Complete processing at room temperature and easy adaption to automated use



	NucleoMag® Blood 200 µL	NucleoMag® Blood 3 mL
Technology	Magnetic bead technology	Magnetic bead technology
Sample material	Blood (< 200 µL)	Blood (< 3 mL)
Fragment size	300 bp–approx. 50 kbp	300 bp–approx. 50 kbp
Typical yield	2–8 µg (200 µL blood)	100–130 µg (3 mL blood)
Elution volume	50–100 µL	1000 µL
Binding capacity	0.4 µg/µL beads	0.4 µg/µL beads
Preparation time	45 min/96 preps*	60 min/24 preps*

Established on KingFisher® Flex.

Application data



Isolation of genomic DNA from fresh and frozen human blood samples

DNA was isolated from fresh and frozen 200 µL human blood samples (n = 6) using the NucleoMag® Blood 200 µL kit on a KingFisher® Flex platform. The total yield was determined by UV-spectrometry (dark blue bars). A subsequent qPCR analysis (orange squares) was performed with a Taqman® Probe for a 250 bp β-Actin amplicon using the SensiFast™ Probe Lo-ROX kit from Bioline on an Applied Biosystems® 7500 Real-Time PCR System.

Reference

Wiers *et al.* 2015 “Effects of depressive symptoms and peripheral DAT methylation on neural reactivity to alcohol cues in alcoholism”

Translational Psychiatry

Ordering information




Product	Preps	REF
NucleoMag® Blood 200 µL	1 x 96 / 4 x 96	744501.1 / .4
NucleoMag® Blood 3 mL	1 x 96	744502.1

Cell-free DNA from plasma

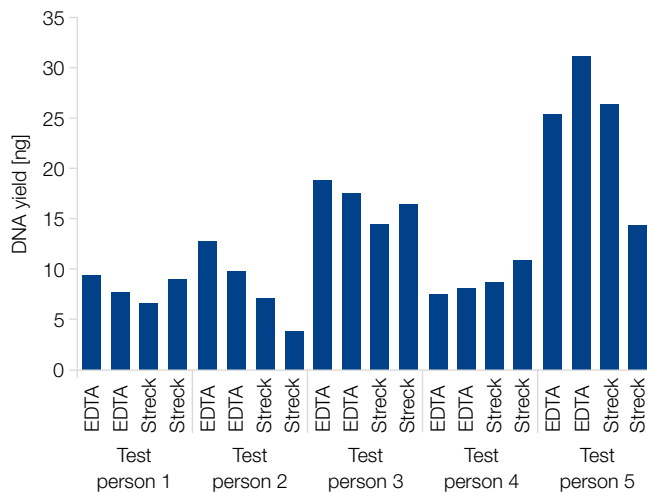
NucleoSpin® DNA Plasma

Efficient isolation of cell-free DNA from single spin to high throughput format

- High recovery of fragmented DNA ≥ 50 bp
- Choose the format you need to process 0.2 to 5 mL plasma

	XS  NucleoSpin® Plasma XS	Midi  NucleoSpin® DNA Plasma Midi	96-well  NucleoSpin® 96 DNA Plasma
Technology	Silica membrane technology	Silica membrane technology	Silica membrane technology
Sample material	Plasma / serum (< 240 μ L)	Plasma (1–5 mL)	Plasma (0.5–2 mL)
Fragment size	≥ 50 bp	≥ 50 bp	≥ 50 bp
Typical yield	25 pg–25 ng (240 μ L plasma)	Depending on sample source, storage, and quality	Depending on sample source, storage, and quality
Elution volume	5–30 μ L	200 μ L (140 μ L final eluate volume)	100 μ L (70 μ L final eluate volume)
Preparation time	> 20 min/6 preps (rapid procedure)	90 min/24 preps (EDTA plasma)	90 min/96 preps (EDTA plasma)

Application data



Efficient isolation of cfDNA from 2 mL plasma in 96-well format

Comparison of the cfDNA yield from 2 mL plasma samples from different individuals and different blood draw tubes. The results show that the NucleoSpin® 96 DNA Plasma kit enables the successful isolation of cfDNA from commonly used blood collection tubes.

DNA was quantified by qPCR (Quantifier® Human DNA Quantification Kit, Thermo Fisher Scientific®).

Ordering information

Product	Preps	REF
NucleoSpin® Plasma XS	10 / 50 / 250	740900.10 / .50 / .250
NucleoSpin® DNA Plasma Midi	48	740303.48
NucleoSpin® DNA Plasma Midi Core Kit*	48	740302.48
NucleoSpin® 96 DNA Plasma	1 x 96 / 4 x 96	740873.1 / .4
NucleoSpin® 96 DNA Plasma Core Kit*	1 x 96 / 4 x 96	740874.1 / .4
Related product		
Starter Set Midi	1	740744

* Kits with basic content focusing on automatic platforms. Additional accessories can be combined as needed.

Cell-free DNA from plasma

NucleoSnap® DNA Plasma

Isolation of cell-free DNA from large volumes up to 10 mL of blood, plasma, or urine

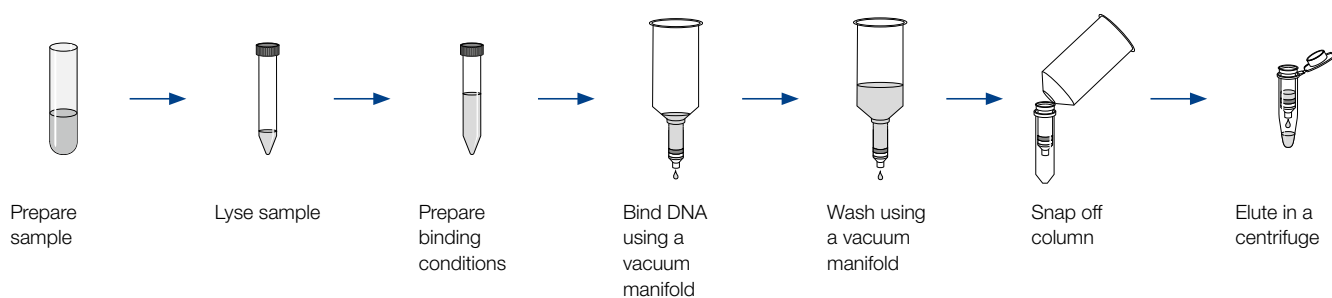
- New column design (snap off column) for quick vacuum processing of large sample volumes
- Optimized protocol for Cell-free DNA BCT® (Streck)



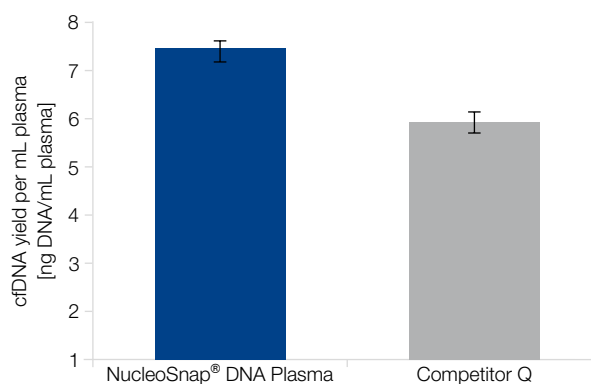
Technology	Precipitation and filtration
Sample material	Plasma/urine (1–10* mL)
Fragment size	≥ 50 bp
Typical yield	Depending on sample source, storage, and quality
Elution volume	20–100 µL
Preparation time	45 min/6 preps (EDTA plasma)

* For processing volumes larger than 5 mL, additional lysis buffer and Proteinase K have to be ordered separately. Please refer to the corresponding user manual.

Procedure



Application data

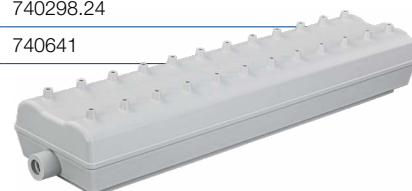


Efficient isolation of cfDNA from 5 mL human EDTA plasma

Isolation of cfDNA from EDTA plasma with the NucleoSnap® DNA Plasma kit results in a higher cfDNA yield per mL plasma compared with a vacuum based kit from competitor Q.

Ordering information

Product	Preps	REF
NucleoSnap® DNA Plasma	10 / 50	740300.10 / .50
Related products		
Liquid Proteinase K	5 mL	740396
NucleoVac 24 Vacuum Manifold	1	740299
NucleoVac Mini Adapter	100	740297.100
NucleoVac Valves	24	740298.24
NucleoVac Vacuum Regulator	1	740641



Cell-free DNA from plasma

NucleoMag® DNA Plasma

Consistent cfDNA recovery from 1–10 mL plasma samples

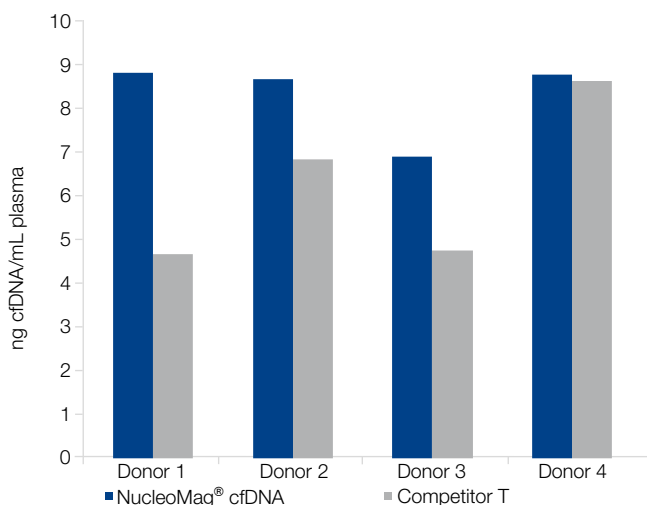
- Efficient purification of fragmented DNA as small as 50 bp
- No PCR inhibition regardless of your preferred sample volume



Technology	Magnetic bead technology
Sample material	1-10 mL Human EDTA/Cell-Free DNA BCT® plasma
Fragment size	≥ 50 bp
Typical yield	Depending on sample source, storage, and quality
Elution volume	50–200 µL
Binding capacity	0.3 µg/µL beads
Preparation time	55 min/24 preps (2 mL; excl. lysis)*

* Established on KingFisher® Flex

Application data



Competitive detection of low abundance cfDNA samples

Total cfDNA was purified from 2 mL human EDTA plasma derived from 4 challenging donor samples with low abundance cfDNA (< 10 ng cfDNA/mL Plasma). Isolation with the NucleoMag® DNA Plasma kit results in higher and more consistent total cfDNA yields with less fluctuations in comparison to competitor T.

Ordering information

Product	Preps	REF
NucleoMag® DNA Plasma	1 x 48 / 4 x 48	744550.1 / .4
Related products		
NucleoMag SEP 24	1	744903
24-Square-well Block	4	740679.4
24-Square-well Block U-bottom	24	740448.24
KingFisher® 24 Accessory Kit	1 set	744953

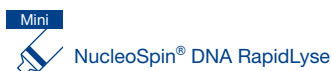


DNA from cells and tissue

NucleoSpin® DNA RapidLyse

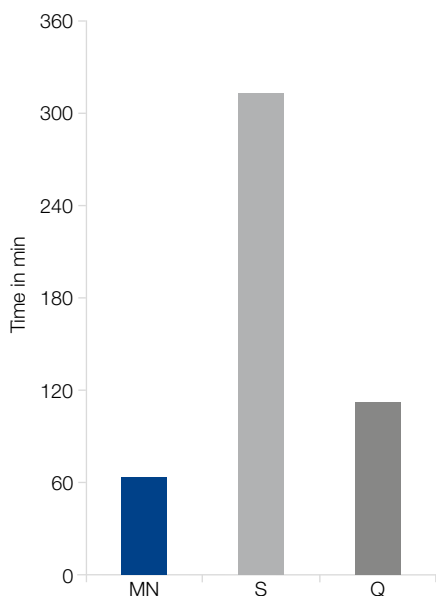
For rapid extraction of total DNA from tissue and organs

- Unique lysis chemistry to efficiently release gDNA from tissues, and organs
- Powerful lysis in one hour or less



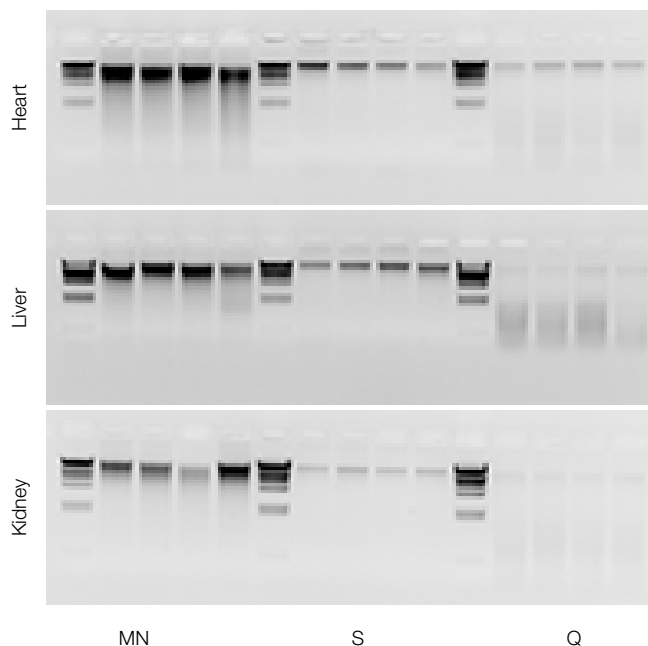
	NucleoSpin® DNA RapidLyse	NucleoSpin® 96 RapidLyse
Technology	Silica membrane technology	Silica membrane technology
Sample material	Tissue (< 40 mg fresh weight)	Tissue (< 30 mg fresh weight), cells (< 1 x 10 ⁶)
Fragment size	200 bp–approx. 50 kbp	200 bp–approx. 50 kbp
Typical yield	Up to 4 µg DNA/mg tissue	Up to 4 µg DNA/mg tissue
Elution volume	60–100 µL	100 µL
Binding capacity	60 µg	40 µg
Preparation time	25 min/6 preps (excl. lysis)	60 min/96 preps (excl. lysis)

Application data



Time saving procedure

The duration of the procedure (incl. lysis) was compared to common extraction methods (competitor S and Q). Fastest gDNA isolation was carried out with NucleoSpin® DNA RapidLyse (MN).



Outstanding DNA yields

After sample lysis for one hour and subsequent DNA extraction, same amounts of independent eluates were subjected to gel electrophoresis. Superior yields of high molecular weight gDNA could be extracted with NucleoSpin® DNA RapidLyse (MN) in comparison to competitor S and Q.

Ordering information





Product	Preps	REF
NucleoSpin® DNA RapidLyse	10 / 50 / 250	740100.10 / .50 / .250
NucleoSpin® 96 DNA RapidLyse	1 x 96 / 4 x 96	740110.1 / .4

DNA from cells and tissue

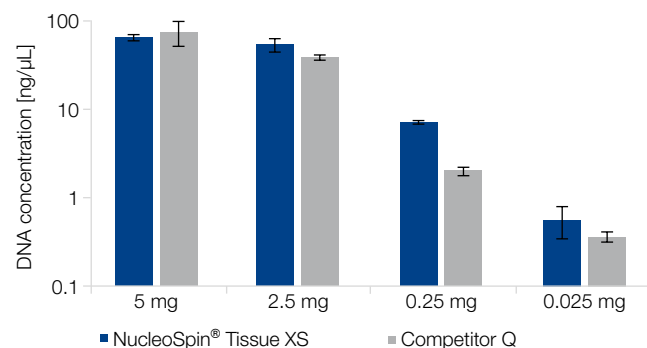
NucleoSpin® Tissue

Allround kits for purification of DNA from a broad range of samples

- Sustainable kit optimization guarantees a reliable DNA purification and reproducible results
- More than 16 supplementary protocols for a huge variety of starting materials

	 NucleoSpin® Tissue XS	 NucleoSpin® Tissue Mini	 NucleoSpin® 8 Tissue	 NucleoSpin® 96 Tissue
Technology	Silica membrane technology	Silica membrane technology	Silica membrane technology	Silica membrane technology
Sample material	Tissue (0.025–10 mg), blood (1–30 µL), cells (< 10 ⁴), Guthrie cards (5–30 mm ²)	Tissue (< 25 mg), cells (10 ² –10 ⁷)	Tissue (< 20 mg), cells (< 10 ⁶)	Tissue (< 20 mg), cells (< 10 ⁶)
Fragment size	200 bp–approx. 50 kbp	200 bp–approx. 50 kbp	300 bp–approx. 50 kbp	300 bp–approx. 50 kbp
Typical yield	Depending on sample type and amount	20–35 mg	15–25 µg	15–25 µg
Elution volume	5–30 µL	60–100 µL	100–200 µL	100–200 µL
Binding capacity	50 µg	60 µg	40 µg	40 µg
Preparation time	40 min/prep (excl. lysis)	20 min/prep (excl. lysis)	20 min/6 strips (excl. lysis)	60 min/plate (excl. lysis)

Application data



Extraction of genomic DNA from small amounts of murine liver

Genomic DNA was purified from small amounts of murine liver tissue using NucleoSpin® Tissue XS and a competitor kit, both especially designed for very small sample amounts. The NucleoSpin® Tissue XS kit is superior in both: DNA concentration and total yield.

Reference

Senkomago *et al.*, 2015 “Acquisition and persistence of human papillomavirus 16 (HPV-16) and HPV-18 among men with high-HPV viral load infections in a circumcision trial in Kisumu, Kenya”

The Journal of Infectious Diseases

Ordering information

Product	Preps	REF
NucleoSpin® Tissue XS	10 / 50 / 250	740901.10 / .50 / .250
NucleoSpin® Tissue	10 / 50 / 250	740952.10 / .50 / .250
NucleoSpin® 8 Tissue	12 x 8 / 60 x 8	740740 / .5
NucleoSpin® 8 Tissue Core Kit*	48 x 8	740453.4
NucleoSpin® 96 Tissue	2 x 96 / 4 x 96 / 24 x 96	740741.2 / .4 / .24
NucleoSpin® 96 Tissue Core Kit*	4 x 96	740454.4

Kits with basic content focusing on automatic platforms. Additional accessories can be combined as needed.

DNA from cells and tissue

NucleoMag[®] Tissue

Magnetic bead based isolation of DNA from human or animal tissue, cells, or bacteria

- Minimal sized beads for prolonged optimized binding and slowed sedimentation
- Highly efficient sample lysis by combined SDS/Proteinase K solution
- Optimized protocols for all common automation platforms available



Technology	Magnetic bead technology
Sample material	Tissue (< 20 mg), cells or bacterial cells (< 10 ⁹)
Fragment size	300 bp–approx. 50 kbp
Typical yield	10–20 µg (20 mg tissue)
Elution volume	50–200 µL
Binding capacity	0.4 µg/µL beads
Preparation time	30 min/96 preps (excl. lysis)*

* Established on KingFisher[®] Flex.

References

Merckx *et al.*, 2015 “Evolution of endemism on a young tropical mountain”

Nature

Mattila *et al.*, 2012 “High genetic load in an old isolated butterfly population”

Proceedings of the National Academy of Sciences

Ordering information

Product	Preps	REF
NucleoMag [®] Tissue	1 x 96 / 4 x 96 / 24 x 96	744300.1 / .4 / .24



DNA from lipid rich tissue

NucleoSpin® DNA Lipid Tissue

Isolation of DNA from lipid rich tissue

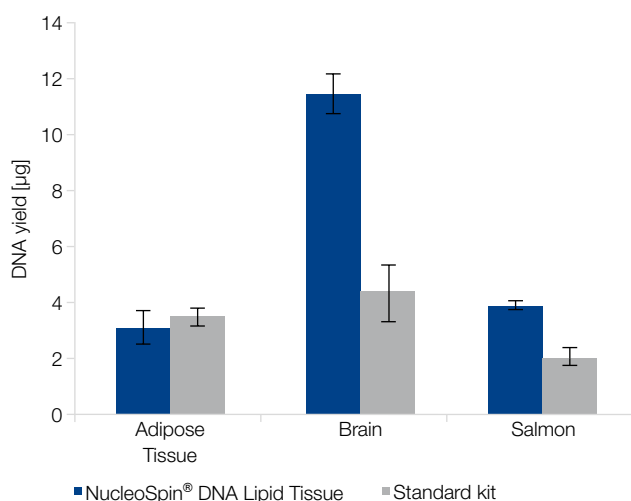
- Special buffer composition for complete removal of lipids
- NucleoSpin® Bead Tubes for efficient lysis included – compatible with the most common disruption devices



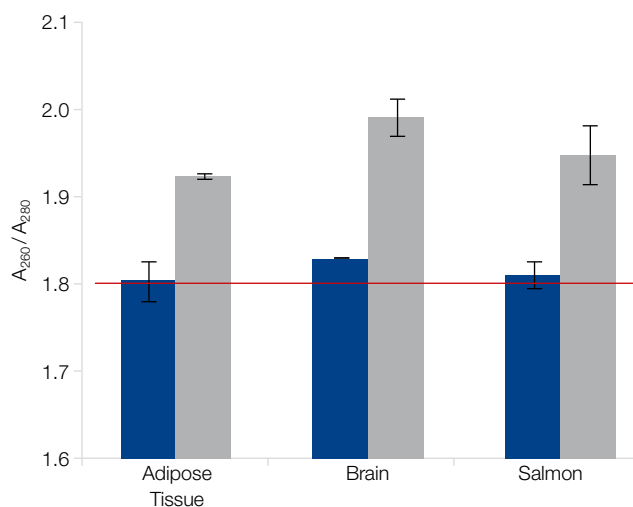
Technology	Silica membrane technology combined with NucleoSpin® Bead Tube Type D
Sample material	Lipid rich tissue (< 40 mg)
Fragment size	200 bp–approx. 50 kbp
Typical yield	Depends on sample type, quality, and water content
Elution volume	25–200 µL
Binding capacity	60 µg
Preparation time	35 min/6 preps

Application data

A



B



Excellent yield and quality of genomic DNA purified from various lipid tissues

DNA was isolated from different lipid rich samples using the NucleoSpin® DNA Lipid Tissue kit and a standard extraction kit according to manufacturers' protocols

A: DNA yield was assessed by measurement of the absorption. DNA was efficiently isolated with the MN NucleoSpin® DNA Lipid Tissue kit even from difficult tissues like brain.

B: The ratio of absorbance at 260 nm and 280 nm was calculated to assess purity of the isolated DNA. The optimal value of "1.8" is marked by a red line. DNA isolated with the NucleoSpin® DNA Lipid Tissue kit was consistently pure.

Ordering information

Product	Preps	REF
NucleoSpin® DNA Lipid Tissue	10 / 50	740471.10 / .50
Related products		
NucleoSpin® Bead Tubes Type D	50	740814.50
MN Bead Tube Holder	1	740469

DNA from insects

NucleoSpin® DNA Insect

Isolation of DNA from insects, crustaceans, and arachnids

- High quality DNA from fresh, frozen, dried, or ethanol preserved specimen
- NucleoSpin® Bead Tubes for efficient lysis of an exoskeleton – compatible with the most common disruption devices

Mini

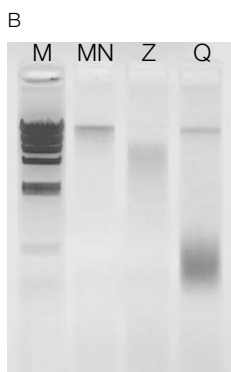
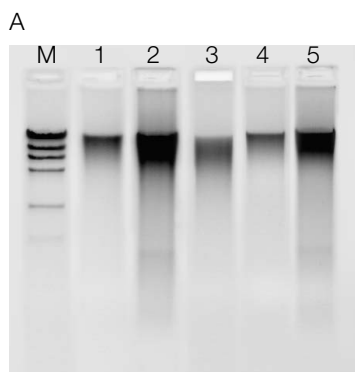


NucleoSpin® DNA Insect

Technology	Silica membrane technology combined with NucleoSpin® Bead Tube Type D
Sample material	Insect / crustacean / arachnid sample (< 40 mg)
Fragment size	200 bp–approx. 50 kbp
Typical yield	< 25 µg (varies by sample and disruption device)
Elution volume	25–200 µL
Binding capacity	60 µg
Preparation time	35 min/6 preps



Application data



Superior yield and quality of DNA

A: DNA from different species was isolated with the NucleoSpin® DNA Insect kit and separated by an agarose gel electrophoresis.

1 = fruit fly, 2 = mosquito larvae, 3 = field cricket, 4 = house cricket, 5 = mealworm. High molecular weight DNA was observed in all samples (M=Marker).

B: DNA was isolated from a single fruit fly (*D. melanogaster*) with three different extraction methods. Intact and pure high molecular weight DNA was isolated with the NucleoSpin® DNA Insect kit (MN). Extraction with competitor kits resulted in DNA degradation (Z) or RNA contamination (Q) (M=Marker).

Ordering information

Product	Preps	REF
NucleoSpin® DNA Insect	10 / 50	740470.10 / .50
Related products		
NucleoSpin® Bead Tubes Type D	50	740814.50
MN Bead Tube Holder	1	740469






DNA from FFPE samples

NucleoSpin® DNA FFPE

DNA recovery from formalin-fixed, paraffin-embedded samples

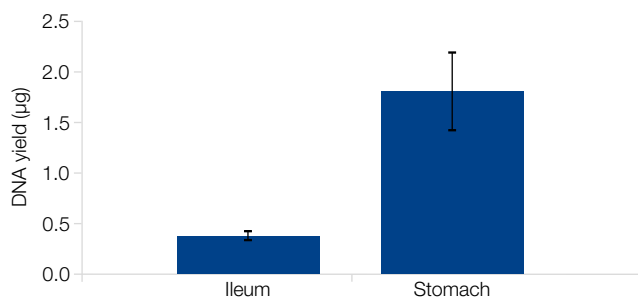
- Odorless paraffin removal by patented Paraffin Dissolver without xylene
- Efficient removal of crosslinks promotes compatibility with downstream enzymatic reactions

Patented
technology

	 NucleoSpin® DNA FFPE XS	 NucleoSpin® 8 DNA FFPE	 NucleoSpin® 96 DNA FFPE
Technology	Silica membrane technology	Silica membrane technology	Silica membrane technology
Sample material	≤ 7 sections (10 µm) of 250 mm ² total area (< 15 mg paraffin*)	Tissue (< 10 mg), paraffin (< 15 mg)	Tissue (< 10 mg), paraffin (< 15 mg)
Fragment size	Up to 5 kbp	Up to 5 kbp	Up to 5 kbp
Typical yield	Depending on sample amount and quality	Depending on sample amount and quality	Depending on sample amount and quality
Elution volume	5–30 µL	100 µL	100 µL
Binding capacity	50 µg	20 µg	20 µg
Preparation time	70 min/6 preps (excl. lysis)	60 min/6 strips (excl. lysis)	60 min/plate (excl. lysis)

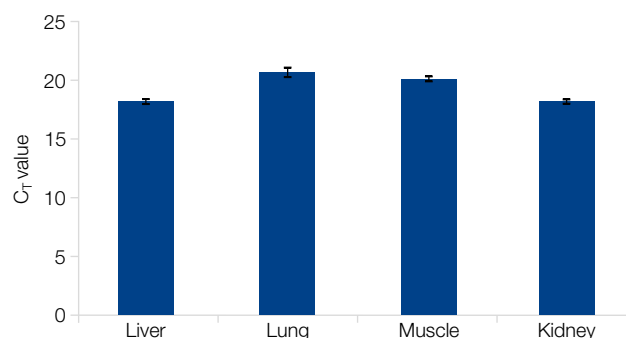
* When using the standard protocol with Paraffin Dissolver. Larger quantities of paraffin can be processed when using additional Paraffin Dissolver or the protocol with xylene for deparaffinization.

Application data



Reliable DNA yield

DNA was purified from seven human ileum as well as human stomach FFPE samples and quantified with Quantifiler® Human DNA Quantification Kit. A DNA yield of approximately 0.3 µg from ileum and 1.7 µg from stomach could be obtained with NucleoSpin® 96 DNA FFPE kit.



Consistent PCR performance

Genomic DNA was isolated with the NucleoSpin® 96 DNA FFPE kit from mouse liver, lung, muscle, and kidney samples (eight FFPE samples each). The purified DNA was quantified with Maxima™ SYBR® Green qPCR Master Mix (amplicon size 100 bp) resulting in reliable C_T values indicating consistent DNA yields.

Ordering information

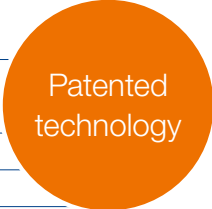
Product	Preps	REF
NucleoSpin® DNA FFPE XS	10 / 50 / 250	740980.10 / .50 / .250
NucleoSpin® 8 DNA FFPE	12 x 8	740242
NucleoSpin® 96 DNA FFPE	1 x 96 / 4 x 96	740240.1 / .4

DNA from FFPE samples

NucleoMag® DNA FFPE

Isolation of DNA from formalin-fixed, paraffin-embedded samples with magnetic bead technology

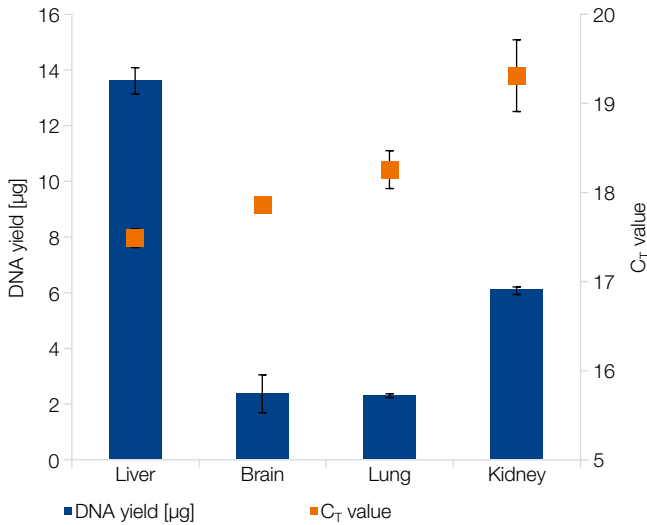
- Paraffin Dissolver facilitates odorless paraffin removal without xylene
- Suitable for high throughput purification on automation platforms



Technology	Magnetic bead technology
Sample material	Tissue (< 5 mg), paraffin (< 15 mg)
Fragment size	50 bp–5 kbp
Typical yield	Strongly depending on sample amount and quality
Elution volume	> 25 µL
Binding capacity	0.4 µg/µL beads
Preparation time	30 min/96 preps (excl. lysis)*

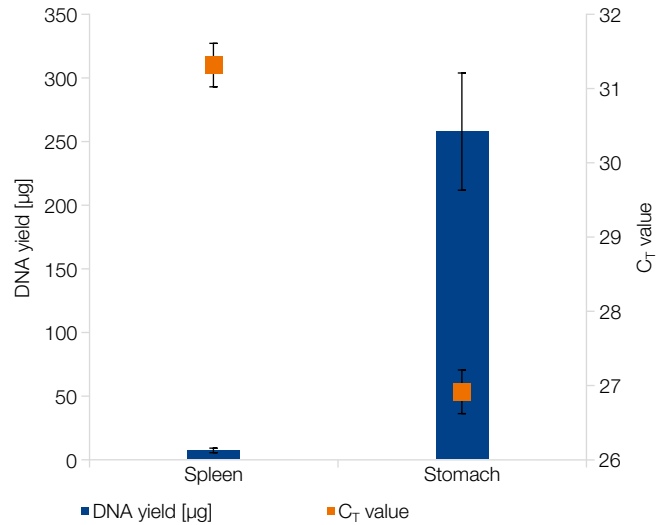
* Established on KingFisher® Flex.

Application data



Automated mouse FFPE sample extraction

DNA was isolated from formalin-fixed and paraffin-embedded mouse sections (thickness 20 µm each) with the NucleoMag® DNA FFPE kit. Dimensions of each section: brain 50 mm²; liver 70 mm²; lung 40 mm²; kidney 40 mm². Extraction of 1 slice/prep (4 preparations for each organ) resulted in the indicated total amounts of DNA (dark blue bars) measured via optical density. The qPCR analysis (orange squares) was performed using Thermo Scientific™ Maxima™ SYBR® Green qPCR Master Mix.



Automated human FFPE sample extraction

DNA was isolated from formalin-fixed and paraffin-embedded human sections (thickness 20 µm each). Dimensions of each section: spleen 150 mm²; stomach 150 mm². Extraction of 1 slice/prep (4 preparations for each organ) resulted in the indicated total amounts of DNA (dark blue bars) and qPCR values (orange squares). Analysis was performed using the Quantifiler™ Human DNA Quantification Kit from Thermo Scientific™.

Ordering information

Product	Preps	REF
NucleoMag® DNA FFPE	1 x 96 / 4 x 96	744320.1 / .4

DNA from forensic samples

NucleoSpin® DNA Forensic

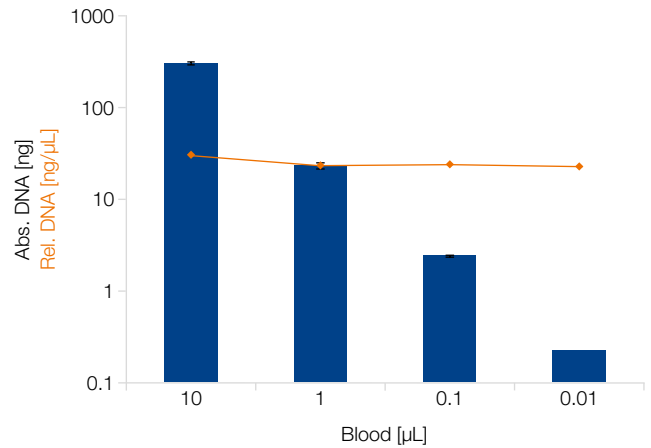
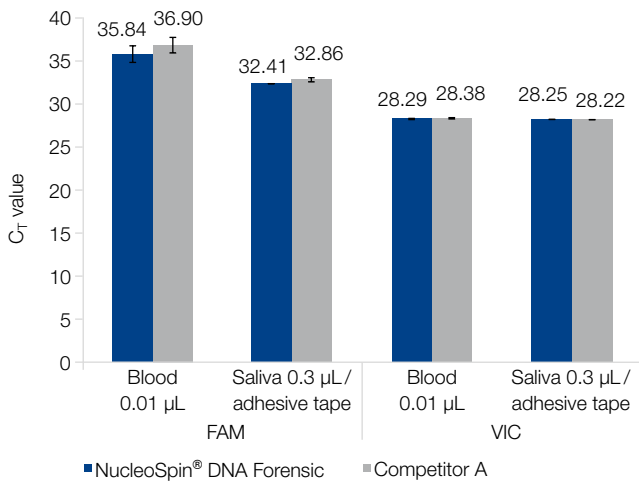
Isolation of DNA from forensic traces samples

- Conformity to ISO18385 guarantees doubtless DNA profiling
- Highest flexibility in format – shared buffer chemistry with NucleoMag® DNA Forensic



Technology	Silica membrane technology
Sample material	Casework samples, contact traces (e.g., dried blood spots, cigarette filters, swabs)
Typical yield	E.g. 1–3 µg from buccal swab
Typical concentration	10–30 ng/µL
Elution volume	50–100 µL
Binding capacity	7 µg

Application data



Best performance for diverse sample material

NucleoSpin® DNA Forensic was compared with competitor kit „A“. Final DNA recovery was quantified using the Quantifiler® Human DNA Quantification kit. Analysis was performed with: FAM™ dye for detecting the amplified human telomerase reverse transcriptase gene sequence and VIC® dye for detecting the amplified Internal PCR Control (IPC) DNA.

NucleoSpin® DNA Forensic kit shows consistent gDNA recovery

DNA was recovered from increasing volumes of blood added to swab material. Purification was performed with the NucleoSpin® DNA Forensic kit. The consistent correlation of DNA amount and sample volume (orange line) demonstrates that performance of the kit was not affected by sample volume.

Ordering information

Product	Preps	REF
NucleoSpin® DNA Forensic	10 / 50 / 250	740840.10 / 50 / .250

DNA from forensic samples

NucleoMag® DNA Forensic

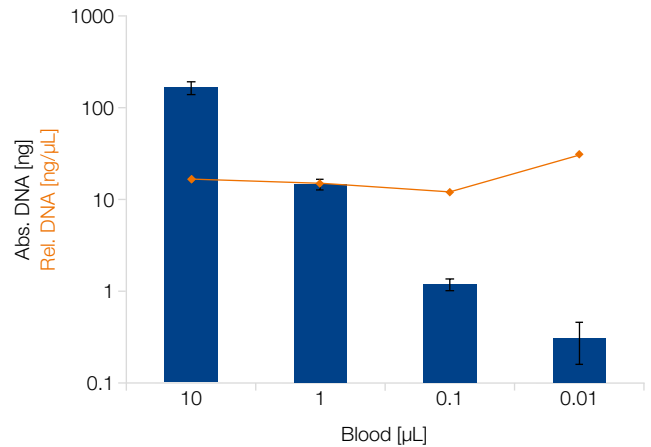
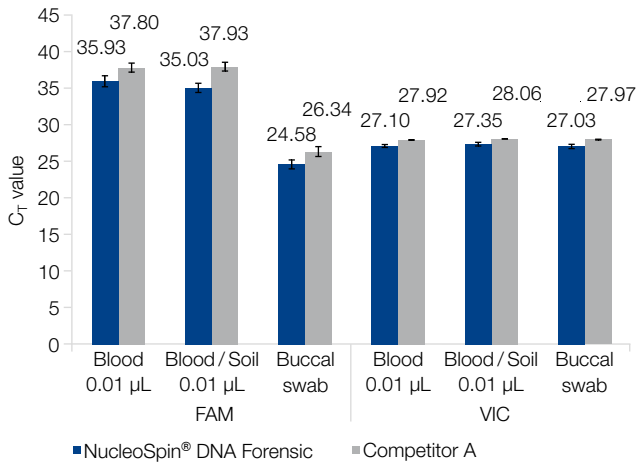
Magnetic bead based isolation of genomic DNA from traces

- Conformity to ISO 18385 guarantees doubtless DNA profiling
- Highest flexibility in format – shared buffer chemistry with NucleoSpin® DNA Forensic



Technology	Magnetic bead technology
Sample material	Casework samples, contact traces (e.g., dried blood spots, cigarette filters, swabs)
Typical yield	e.g. 1–3 µg from buccal swab
Typical concentration	< 1 ng/µL
Elution volume	25–50 µL
Binding capacity	0.4 µg/µL beads

Application data



NucleoMag® DNA Forensic is suitable for diverse sample material

DNA was purified from diverse sample materials using NucleoMag® DNA Forensic and competitor kit „A“. Final DNA recovery was quantified using the Quantifiler® Human DNA Quantification kit. Analysis was performed with: FAM™ dye for detecting the amplified human telomerase reverse transcriptase gene sequence and VIC® dye for detecting the amplified Internal PCR Control (IPC) DNA.

Consistent gDNA recovery relative to sample amount

NucleoMag® DNA Forensic was used to isolate DNA from increasing blood volumes added to swab material. The performance of kit was not affected by sample volume as there is a consistent correlation of DNA amount and sample volume (orange line).

Ordering information

Product	Preps	REF
NucleoMag® DNA Forensic	1 x 96 / 4 x 96	744660.1 / .4



DNA from forensic samples

NucleoSpin® Forensic Filters

Incubation of forensic specimens for lysis and subsequent lysate separation

- Lysis and lysate separation in a one tube reaction – no sample transfer, no extra pipetting steps
- Collection Tube with lid – no cross-contamination

Mini



NucleoSpin® Forensic Filters

Technology	Semi-permeable basket
Maximal volume	800 µL
Forensic quality	Ethylene oxide treated
Typical downstream applications	DNA purification (e.g., with NucleoSpin® Tissue / Tissue XS, NucleoSpin® DNA Forensic, and NucleoMag® DNA Forensic)

Ordering information

Product	Preps	REF
NucleoSpin® Forensic Filters (blistered individually)	10 / 50 / 250	740988.10 / .50 / .250
NucleoSpin® Forensic Filters (Bulk)	50 / 250 / 1000	740988.50B / .250B / .1000B








DNA from plant and fungi

NucleoSpin® Plant II

Rapid isolation of DNA from a multitude of plant samples

- Compatibility with diverse plant materials due to a selectable lysis buffer chemistry including CTAB or SDS
- NucleoSpin® Filters eliminate the risk of column clogging

	 Mini NucleoSpin® Plant II	 Midi NucleoSpin® Plant II Midi	 Maxi NucleoSpin® Plant II Maxi	 8-well NucleoSpin® 8 Plant II	 96-well NucleoSpin® 96 Plant II
Technology	Silica membrane technology	Silica membrane technology	Silica membrane technology	Silica membrane technology	Silica membrane technology
Sample material	Plant tissue (< 100 mg wet weight, 20 mg dry weight)	Plant tissue (< 400 mg wet weight, 80 mg dry weight)	Plant tissue (< 1500 mg wet weight, 300 mg dry weight)	Plant tissue (20–100 mg wet weight)	Plant tissue (20–100 mg wet weight)
Fragment size	50 bp–approx. 50 kbp	50 bp–approx. 50 kbp	50 bp–approx. 50 kbp	50 bp–approx. 50 kbp	50 bp–approx. 50 kbp
Typical yield	Up to 30 µg (100 mg plant tissue, wet weight)	Up to 100 µg (400 mg plant tissue, wet weight)	50–300 µg (1500 mg plant tissue, wet weight)	Up to 30 µg (100 mg plant tissue, wet weight)	Up to 30 µg (100 mg plant tissue, wet weight)
Elution volume	50–100 µL	200–400 µL	1000–2000 µL	100–200 µL	100–200 µL
Binding capacity	50 µg	200 µg	500 µg	30 µg	30 µg
Preparation time	30 min/prep	90 min/prep	90 min/prep	30 min/6 strips (excl. lysis)	60 min/plate (excl. lysis)

Application data



Successful DNA purification from a huge variety of plants

100 mg plant material and either Buffer PL1 or PL2 were used for lysis. PCR analysis shows that genomic DNA could be successfully isolated from a huge variety of plants.

Lane M: marker, lane 1–18: analyzed samples: willow, rose, fir needles, wheat, sugar beet, spruce needles, cherry tree, grass, elder bush, geranium, yew, stinging nettle, dragon tree, yellow soy bean, corn salad, garden cress, maize, and gladiolus.

Reference

Floate *et al.*, 2015 "Plant-herbivore interactions in a trispecific hybrid swarm of *Populus*: assessing support for hypotheses of hybrid bridges, evolutionary novelty and genetic similarity"

New Phytologist

Ordering information

Product	Preps	REF
NucleoSpin® Plant II	10 / 50 / 250	740770.10 / .50 / .250
NucleoSpin® Plant II Midi	20	740771.20
NucleoSpin® Plant II Maxi	10	740772.10
NucleoSpin® 8 Plant II	12 x 8 / 60 x 8	740669 / .5
NucleoSpin® 8 Plant II Core Kit*	48 x 8	740467.4
NucleoSpin® 96 Plant II	2 x 96 / 4 x 96 / 24 x 96	740663.2 / .4 / .24
NucleoSpin® 96 Plant II Core Kit*	4 x 96	740468.4

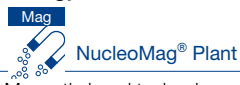
* Kits with basic content focusing on automatic platforms. Additional accessories can be combined as needed.

DNA from plant

NucleoMag® Plant

Magnetic bead based isolation of DNA from plant tissue

- Efficient plant tissue lysis by optimized CTAB buffer chemistry
- Scalable magnetic bead technology facilitates automation



	NucleoMag® Plant	NucleoMag® 384 Plant
Technology	Magnetic bead technology	Magnetic bead technology
Sample material	Plant tissue (20–50 mg, wet weight)	Up to 30 mg plant tissue (wet weight)
Fragment size	300 bp–approx. 50 kbp	300 bp–approx. 50 kbp
Typical yield	10–20 µg (50 mg plant tissue, wet weight)	Depending on sample source, storage, and quality
Elution volume	50–200 µL	40–100 µL
Binding capacity	0.4 µg/µL beads	0.4 µg/µL beads
Processing time	30 min/96 preps*	60 min/384 preps**

* Established on KingFisher® Flex.

** Using e.g., TECAN Freedom EVO and MCA 384 head.

Reference

Merckx *et al.*, 2015 "Evolution of endemism on a young tropical mountain"

Nature

Ordering information

Product	Preps	REF
NucleoMag® Plant	1 x 96 / 4 x 96 / 24 x 96	744400.1 / .4 / .24
NucleoMag® 384 Plant	1 x 384 / 4 x 384	744402.1 / .4



DNA from microorganisms

NucleoSpin® Microbial DNA

Isolation of total DNA from hard to lyse microorganisms

- High quality DNA from gram-positive / gram-negative bacteria, yeast*, or fungi with one procedure
- Efficient sample homogenization with bead tubes compatible with common disruption devices



Mini

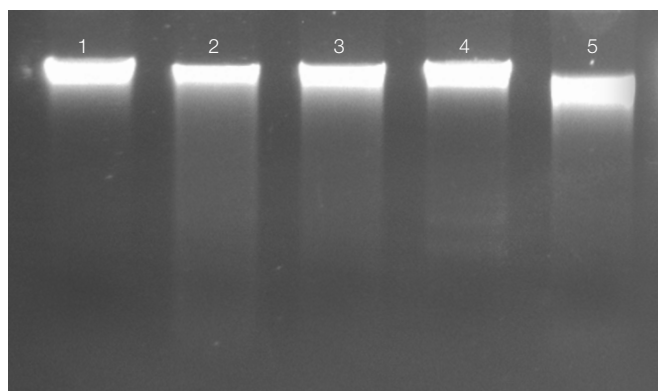


NucleoSpin® Microbial DNA

Technology	Silica membrane technology combined with NucleoSpin® Bead Tube Type B
Sample material	Bacteria, yeast*, fungi (< 40 mg, wet weight)
Fragment size	200 bp–approx. 50 kbp
Typical yield	Up to 25 µg, depending on sample type and disruption method
Elution volume	100–200 µL
Binding capacity	60 µg
Preparation time	35 min/prep

*For yeast samples, NucleoSpin® Bead Tubes Type C are required

Application data



Efficient DNA recovery from different microorganisms

DNA was isolated with the NucleoSpin® Microbial DNA kit and NucleoSpin® Bead Tube Type B (included in the kit) or NucleoSpin® Bead Tube Type C (see ordering information). 100 ng DNA per prep was analyzed by agarose gel electrophoresis showing high molecular DNA without RNA contamination or DNA degradation.

1. *Escherichia coli*, NucleoSpin® Bead Tube Type B
2. *Vibrio fischerii*, NucleoSpin® Bead Tube Type B
3. *Bacillus subtilis*, NucleoSpin® Bead Tube Type B
4. *Corynebacterium glutamicum*, NucleoSpin® Bead Tube Type B
5. *Saccharomyces cerevisiae*, NucleoSpin® Bead Tube Type C

Ordering information

Product	Preps	REF
NucleoSpin® Microbial DNA	10 / 50 / 250	740235.10 / .50 / .250
Related products		
NucleoSpin® Bead Tubes Type B	50	740812.50
NucleoSpin® Bead Tubes Type C	50	740813.50
MN Bead Tube Holder	1	740469



DNA from soil

NucleoSpin® Soil

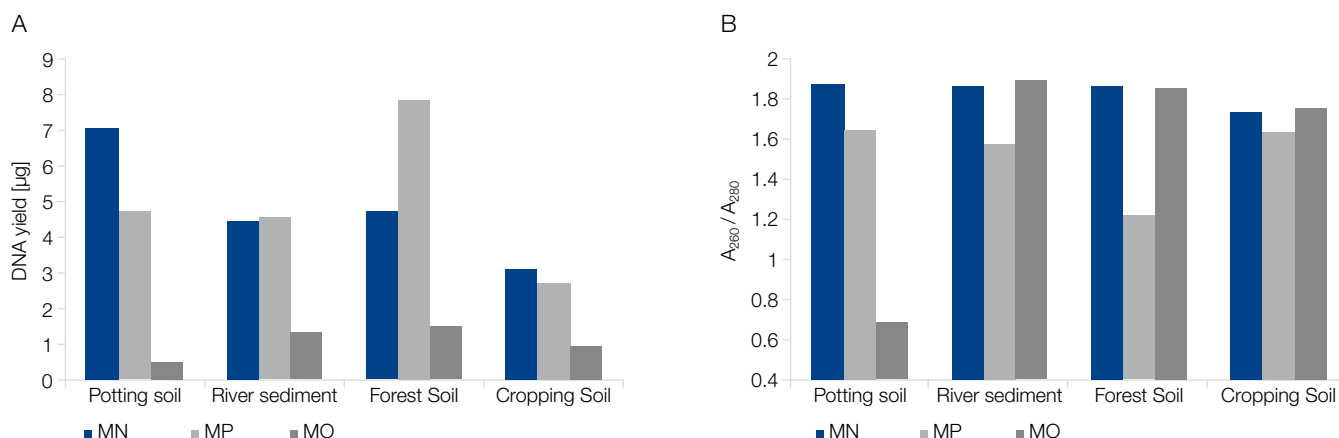
Isolation of total DNA from diverse soil types

- Comprehensive compatibility with diverse soil types due to an adaptable lysis buffer chemistry
- NucleoSpin® Inhibitor Removal Column to remove PCR inhibitors completely – DNA is ready to use for PCR or any enzymatic reaction



	Mini NucleoSpin® Soil	8-well NucleoSpin® 8 Soil	96-well NucleoSpin® 96 Soil
Technology	Silica membrane technology combined with NucleoSpin® Bead Tube Type A	Silica membrane technology combined with NucleoSpin® Bead Tube Type A	Silica membrane technology combined with NucleoSpin® Bead Tube Type A
Sample material	< 500 mg soil	< 500 mg soil	< 500 mg soil
Fragment size	200 bp–approx. 50 kbp	200 bp–approx. 50 kbp	200 bp–approx. 50 kbp
Typical yield	Up to 10 µg (500 mg soil)	2–10 µg (500 mg soil)	2–10 µg (500 mg soil)
Elution volume	30–100 µL	100–200 µL	100–200 µL
Binding capacity	50 µg	50 µg	50 µg
Preparation time	90 min/10 preps	150 min/6 strips	150 min/plate

Application data



Excellent DNA recovery and quality tested for various soil samples

DNA was isolated from different soil samples using the NucleoSpin® Soil kit and two competitor products according to manufacturers' protocols. High yields of DNA were isolated from all samples with the NucleoSpin® Soil kit (A).

In addition, samples that were isolated with the NucleoSpin® Soil kit mostly reached a value of "1.8", showing a high purity of the isolated DNA (B).

References

Merckx *et al.*, 2015 "Evolution of endemism on a young tropical mountain"
Nature

Wagner *et al.*, 2015 "Effect of DNA extraction procedure, repeated extraction and ethidium monoazide (EMA)/propidium monoazide (PMA) treatment on overall DNA yield and impact on microbial fingerprints for bacteria, fungi and archaea in a reference soil"

Applied Soil Ecology

Ordering information

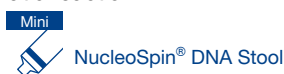
Product	Preps	REF
NucleoSpin® Soil	10 / 50 / 250	740780.10 / .50 / .250
NucleoSpin® 8 Soil	12 x 8	740779
NucleoSpin® 96 Soil	2 x 96 / 4 x 96	740787.2 / .4
Related products		
NucleoSpin® Bead Tubes Type A	50	740786.50
MN Bead Tube Holder	1	740469

DNA from stool

NucleoSpin® DNA Stool

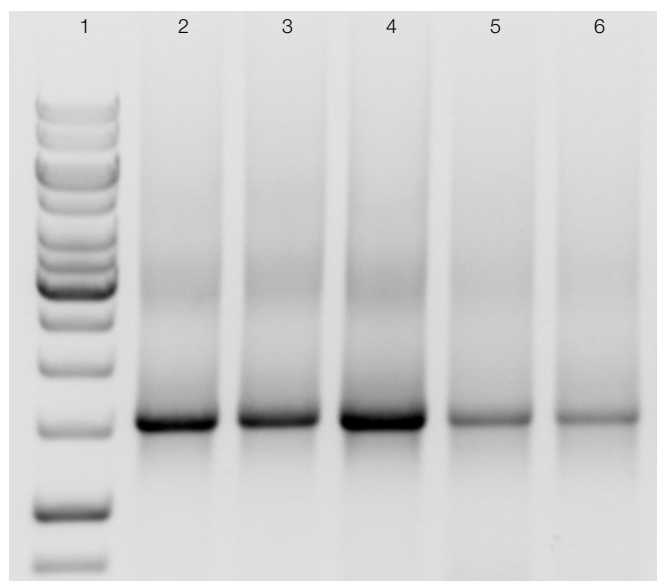
Isolation of DNA from stool samples

- Proven suitability for any stool sample – compatible with stool samples from carnivores, omnivores, and herbivores
- NucleoSpin® Inhibitor Removal Column to remove PCR inhibitors completely – DNA is ready to use for any enzymatic reaction



Technology	Silica membrane technology combined with NucleoSpin® Bead Tube Type A
Sample material	< 200 mg fresh or frozen stool samples (human / animal)
Fragment size	200 bp–approx. 50 kbp
Typical yield	Depends on sample type, quality, and water content
Elution volume	30–100 µL
Binding capacity	50 µg
Preparation time	60 min/10 preps

Application data



Efficient removal of PCR inhibitors from various sample sources

DNA was isolated from human and animal feces samples with the NucleoSpin® DNA Stool kit. Subsequent PCR was performed with undiluted samples, indicating the successful removal of PCR inhibitors.

- Lane 1: GeneRuler™ 1kb Ladder (Thermo)
- Lane 2: Feline
- Lane 3: Sheep
- Lane 4: Rabbit
- Lane 5: Mouse
- Lane 6: Human

Ordering information




Product	Preps	REF
NucleoSpin® DNA Stool	10 / 50 / 250	740472.10 / .50 / .250
Related products		
NucleoSpin® Bead Tubes Type A	50	740786.50
MN Bead Tube Holder	1	740469

DNA from food

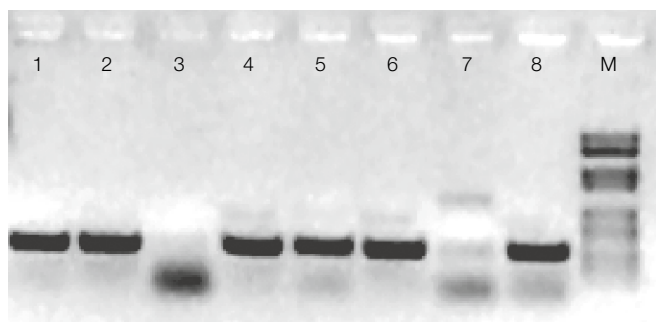
NucleoSpin® Food

For rapid isolation of DNA from food and feed

- Complete removal of PCR inhibitors – get high quality DNA
- Even low amounts of partially degraded DNA can be purified from complex matrices

	 NucleoSpin® Food	 NucleoSpin® 8 Food	 NucleoSpin® 96 Food
Technology	Silica membrane technology	Silica membrane technology	Silica membrane technology
Sample material	5–200 mg food or feed	< 200 mg food or feed	< 200 mg food or feed
Fragment size	300 bp–approx. 50 kbp	300 bp–approx. 50 kbp	300 bp–approx. 50 kbp
Typical yield	Depending on individual sample, storage, and processing	Depending on individual sample, storage, and processing	Depending on individual sample, storage, and processing
Elution volume	100 µL	100–200 µL	100–200 µL
Binding capacity	30 µg	30 µg	30 µg
Preparation time	30 min/6 preps	60 min/48 preps (excl. lysis)	120 min/plate (excl. lysis)

Application data



Data kindly provided by GEN-IAL, Troisdorf, Germany

Beef detection in sausage products

DNA preparation was done according to the NucleoSpin® Food standard protocol. Aliquots of the 100 µL eluates were amplified with primers and components of a commercial kit (CIBUS, Germany). Bovine DNA could be detected in several products, even in strongly processed samples.

Sample 8 was declared to be prepared from duck meat only, but clearly showed presence of beef. Samples 3 and 7 did not contain detectable amounts of bovine DNA.

Ordering information

Product	Preps	REF
NucleoSpin® Food	10 / 50 / 250	740945.10 / .50 / .250
NucleoSpin® 8 Food	12 x 8 / 60 x 8	740975 / .5
NucleoSpin® 96 Food	2 x 96 / 4 x 96 / 24 x 96	740976.2 / .4 / .24



DNA from food

NucleoMag® DNA Food

Flexible DNA isolation from various food and feed samples

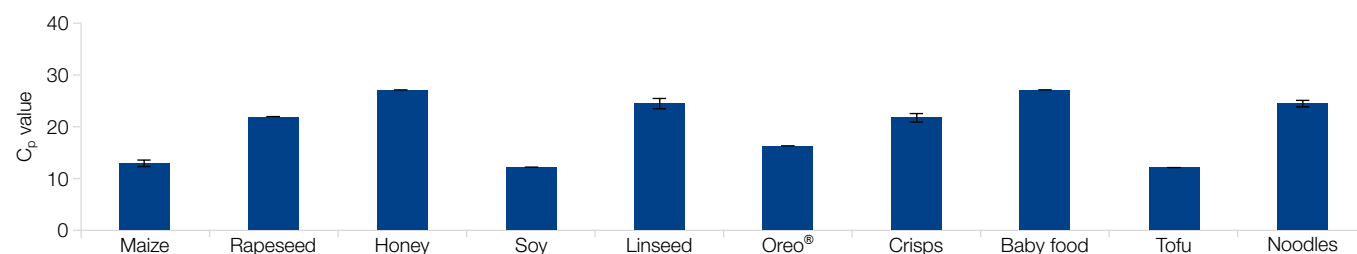
- Get even low amounts of partially degraded DNA from complex matrices
- Suitable for species identification, GMO detection



Technology	Magnetic bead technology
Sample material	< 200 mg food or feed
Binding capacity	300 bp–approx. 50 kbp
Typical yield	0.1–10 µg
Elution volume	50–200 µL
Binding capacity	0.4 µg/µL beads
Processing time	120 min/96 preps*

* Established on KingFisher® Flex.

Application data



NucleoMag® DNA Food is able to isolate DNA from various food samples

Various food samples have been used as input for DNA isolation. Sample homogenization and lysis was performed manually, whereas DNA isolation was performed automated using a KingFisher® Flex. DNA presence within the eluates was determined using qPCR.

Overview of different sample types that have been successfully tested in our R&D

In all cases, DNA was successfully isolated using NucleoMag® DNA Food. Presence of DNA was tested for either by qPCR or via agarose gel electrophoresis

Category	Tested sample material
Raw, vegetable origin	Carrot, potato, soy, maize, rapeseed, linseed, oat, rice, wheat, sunflower seed, grape, seeds (tomato, cucumber, aubergine, melon, pepper), animal food
Raw, animal origin	Deer, pork
Processed, vegetable origin	Agave nectar, oatmeal
Processed, animal origin	Milk, cheese, honey, salami, meat sausage, liver sausage
Complex processed, vegetable origin	Vegetable broth, crisps, pastry, coce, fried onions, tea, spices, tofu, juice, cereal bar, bread
Complex processed, animal origin	Tiramisu, fruit gum, licorice, chocolate, Nutella®, noodles, baby food, oil, dripping

Ordering information

Product	Preps	REF
NucleoMag® DNA Food	1 x 96 / 4 x 96	744945.1 / .4

DNA amplification from blood

NucleoType Blood PCR

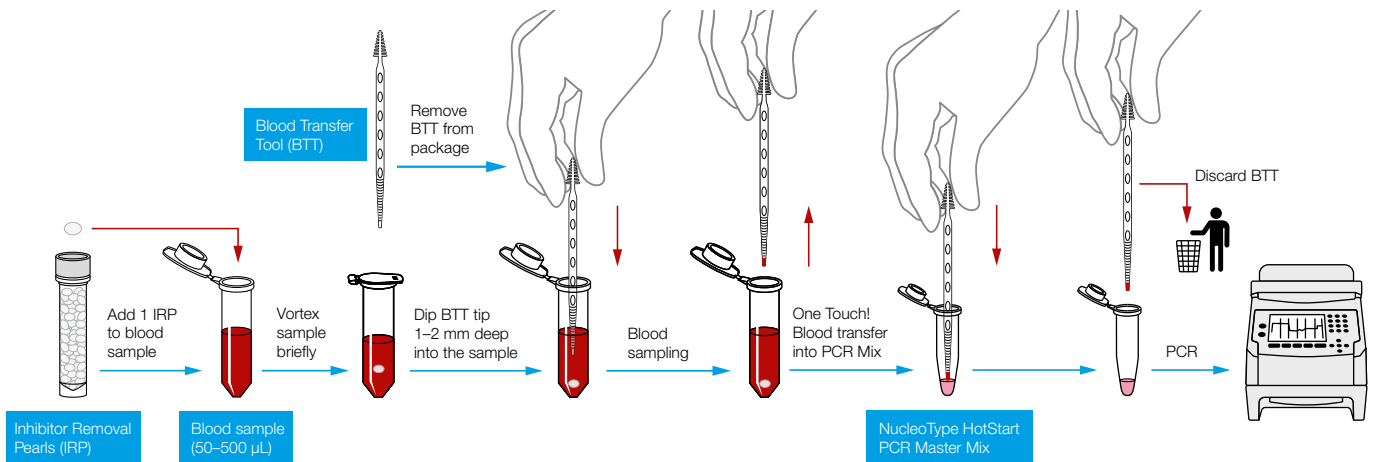
Simplified blood genotyping workflow

- Direct blood handling with the Blood Transfer Tool
- Inhibitor Removal Pearls for superior PCR results
- Designed for human and animal blood samples

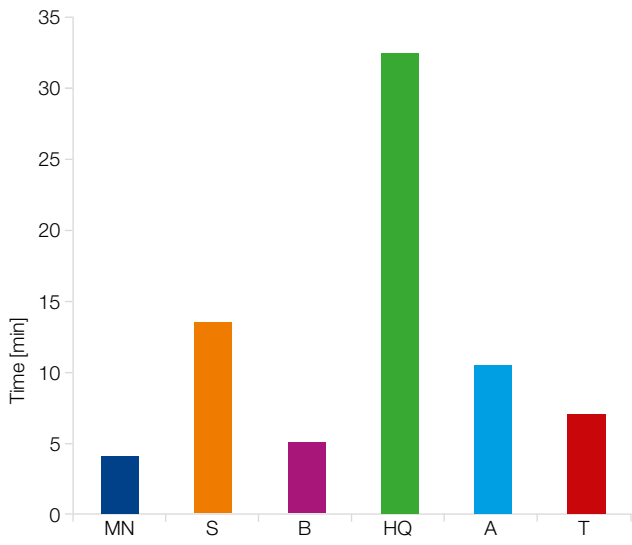


Technology	Direct PCR
Format	10 µL PCR (optional up to 50 µL)
Sample material	Human / animal whole blood, punches from blood storage cards (e.g., NucleoCard® (MN) and FTA cards)
Amplicon size	Up to 1000 bp
Preparation time	Sample preparation: 0–1 min; PCR cycling: 30–90 min (cycler and target size dependent)
Analysis	Gel electrophoresis: Approx. 30 min (40 samples); Bioanalyzer®: Approx. 40 min (12 samples)

Procedure



Application data



Reliable and fast sample preparation

Quick blood pretreatment with Inhibitor Removal Pearls and transfer of blood aliquots to the PCR mix using the Blood Transfer Tools enables a fast sample preparation (n = 6). There is no need for time consuming blood dilution / lysis (S, HQ) or sample cooling (A, HQ). Post amplification analysis can be performed without a centrifugation or addition of loading dye (S, A, T).

Ordering information

Product	Preps	REF
NucleoType Blood PCR	25 / 100 / 500	743201.25 / .100 / .500

DNA amplification from mouse

NucleoType Mouse PCR

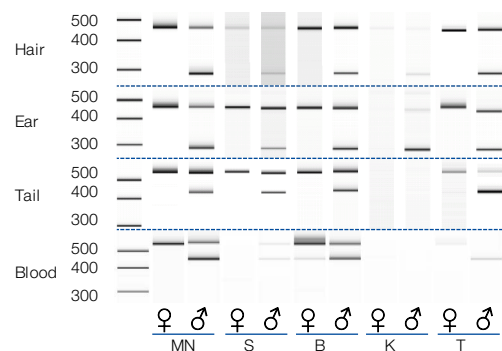
Time and money saving mouse genotyping workflow

- DNA preparation within 5 minutes
- Loading dye included for subsequent gel electrophoresis



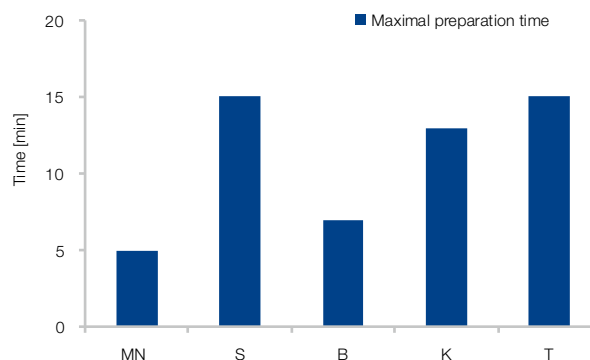
Technology	Simple sample preparation suitable for hot start PCR (optional direct PCR)
Format	20–100 µL lysate; 10 µL PCR (optional 5–50 µL)
Sample material	1 mm diameter ear punch, 1 mm outer tail clipping, or small tuft of hair (approximately 3–30 hairs), or 1 µL mouse blood
Amplicon size	Up to 1000 bp
Preparation time	Simple sample preparation in less than 5 min PCR cycling: 30–90 min (cycler and target size dependent)
Analysis	Gel electrophoresis: Approx. 30 min (40 samples); Bioanalyzer®: Approx. 40 min (12 samples)

Application data



Superior PCR results displaying strong bands within 30 minutes

Mouse EDTA-blood (male/female) purchased from Charles River Laboratories was used and 1 µL was processed according to manufacturer's recommendations. Duplex PCR was performed for mouse genotyping (female ♀ one band / male ♂ two bands). PCR analysis of hair and ear samples was performed by amplification of a 466 bp and 273 bp fragment. Tail and blood samples were analyzed with primers for amplification of a 545 bp and 402 bp fragment. The Bioanalyzer results demonstrates competitive performance of the NucleoType Mouse PCR kit (MN) in comparison to all other tested kits (S, B, K, T).



Fast and cost efficient sample preparation

Preparation times were compared between NucleoType Mouse PCR kit (MN) and several competitor kits (S, B, K, T). The unique lysis buffer of the NucleoType Mouse PCR kit enables template preparation within 5 minutes. An aliquot of this lysate is used as PCR template. Alternatively, direct PCR processing in higher PCR volumes is possible.

Ordering information

Product	Preps	REF
NucleoType Mouse PCR	25 / 100 / 500	743200.25 / .100 / .500

DNA guide

Ordering information

Product	Preps	REF
DNA from blood and biological fluids		
NucleoSpin® Blood	10 / 50 / 250	740951.10 / .50 / .250
NucleoSpin® Dx Blood*	10 / 50 / 250	740899.50 / .250
NucleoSpin® Blood L	20	740954.20
NucleoSpin® Blood L Vacuum	24	740954.24
NucleoSpin® Blood XL	10 / 50	740950.10 / .50
NucleoSpin® 8 Blood	12 x 8 / 60 x 8	740664 / .5
NucleoSpin® 8 Blood Core Kit	48 x 8	740455.4
NucleoSpin® 96 Blood	1 x 96 / 4 x 96	740665.1 / .4
NucleoSpin® 96 Blood Core Kit	4 x 96	740456.4
NucleoSpin® Blood QuickPure	10 / 50 / 250	740569.10 / .50 / .250
NucleoSpin® 8 Blood QuickPure	12 x 8 / 60 x 8	740666 / .5
NucleoSpin® 96 Blood QuickPure	2 x 96 / 4 x 96 / 24 x 96	740667.2 / .4 / .24
NucleoMag® Blood 200 µL	1 x 96 / 4 x 96	744501.1 / .4
NucleoMag® Blood 3 mL	1 x 96 / 4 x 96	744502.1
Cell-free DNA from plasma		
NucleoSpin® Plasma XS	10 / 50 / 250	740900.10 / .50 / .250
NucleoSpin® DNA Plasma Midi	48	740303.48
NucleoSpin® DNA Plasma Midi Core Kit	48	740302.48
NucleoSnap® DNA Plasma	10 / 50	740300.10 / .50
NucleoSpin® 96 DNA Plasma	1 x 96 / 4 x 96	740873.1 / .4
NucleoSpin® 96 DNA Plasma Core Kit	1 x 96 / 4 x 96	740874.1 / .4
NucleoMag® DNA Plasma	1 x 48 / 4 x 48	744550.1 / .4
DNA from cells and tissue		
NucleoSpin® Tissue XS	10 / 50 / 250	740901.10 / .50 / .250
NucleoSpin® Tissue	10 / 50 / 250	740952.10 / .50 / .250
NucleoSpin® 8 Tissue	12 x 8 / 60 x 8	740740 / .5
NucleoSpin® 8 Tissue Core Kit	48 x 8	740453.4
NucleoSpin® 96 Tissue	2 x 96 / 4 x 96	740741.2 / .4
NucleoSpin® 96 Tissue Core Kit	4 x 96	740454.4
NucleoMag® Tissue	1 x 96 / 4 x 96 / 24 x 96	744300.1 / .4 / .24
NucleoSpin® DNA RapidLyse	10 / 50 / 250	740100.10 / .50 / .250
NucleoSpin® 96 DNA RapidLyse	1 x 96 / 4 x 96	740110.1 / .4
DNA from lipid rich tissue		
NucleoSpin® DNA Lipid Tissue	10 / 50	740471.10 / .50
DNA from insects		
NucleoSpin® DNA Insect	10 / 50	740470.10 / .50
DNA from FFPE samples		
NucleoSpin® DNA FFPE XS	10 / 50 / 250	740980.10 / .50 / .250
NucleoSpin® 8 DNA FFPE	12 x 8	740242
NucleoSpin® 96 DNA FFPE	1 x 96 / 4 x 96	740240.1 / .4
NucleoMag® DNA FFPE	1 x 96 / 4 x 96	744320.1 / .4
DNA from forensic samples		
NucleoSpin® DNA Forensic	10 / 50 / 250	740840.10 / .50 / .250
NucleoMag® DNA Forensic	1 x 96 / 4 x 96	744660.1 / .4
NucleoSpin® Forensic Filters (blistered individually)	10 / 20 / 250	740988.10 / .50 / .250
NucleoSpin® Forensic Filters (Bulk)	50 / 250 / 1000	740988.50B / .250B / .1000B

* IVD-CE-marked kit: not available in all countries, please inquire.

DNA guide

Product	Preps	REF
DNA from plant and fungi		
NucleoSpin® Plant II	10 / 50 / 250	740770.10 / .50 / .250
NucleoSpin® Plant II Midi	20	740771.20
NucleoSpin® Plant II Maxi	10	740772.10
NucleoSpin® 8 Plant II	12 x 8 / 60 x 8	740669 / .5
NucleoSpin® 8 Plant II Core Kit	48 x 8	740467.4
NucleoSpin® 96 Plant II	2 x 96 / 4 x 96	740663.2 / .4
NucleoSpin® 96 Plant II Core Kit	4 x 96	740468.4
NucleoMag® Plant	1 x 96 / 4 x 96 / 24 x 96	744400.1 / .4 / .24
NucleoMag® 384 Plant	1 x 48 / 4 x 48	744402.1 / .4
DNA from microorganisms		
NucleoSpin® Microbial DNA	10 / 50	740235.10 / .50
DNA from soil samples		
NucleoSpin® Soil	10 / 50 / 250	740780.10 / .50 / .250
NucleoSpin® 8 Soil	12 x 8	740779
NucleoSpin® 96 Soil	2 x 96 / 4 x 96	740787.2 / .4
DNA from stool samples		
NucleoSpin® DNA Stool	10 / 50	740472.10 / .50
DNA from food and feed		
NucleoSpin® Food	10 / 50 / 250	740945.10 / .50 / .250
NucleoSpin® 8 Food	12 x 8 / 60 x 8	740975 / .5
NucleoSpin® 96 Food	2 x 96 / 4 x 96	740976.2 / .4
NucleoMag® DNA Food	1 x 96 / 4 x 96	744945.1 / .4
DNA amplification from blood		
NucleoType Blood PCR	25 / 100 / 500	743201.25 / .100 / .500
DNA amplification from mouse samples		
NucleoType Mouse PCR	25 / 100 / 500	743200.25 / .100 / .500
NucleoSpin® Bead Tubes		
NucleoSpin® Bead Tubes Type A	50	740786.50
NucleoSpin® Bead Tubes Type B	50	740812.50
NucleoSpin® Bead Tubes Type C	50	740813.50
NucleoSpin® Bead Tubes Type D	50	740814.50
NucleoSpin® Bead Tubes Type E	50	740815.50
NucleoSpin® Bead Tubes Type F	50	740865.50
NucleoSpin® Bead Tubes Type G	50	740817.50
MN Bead Tube Holder	1	740469

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