Bioanalysis

MACHEREY-NAGEL

RNA and DNA purification from hard to lyse samples

Efficient and fast RNA and DNA extraction

Struggling with nucleic acid isolation from hard to lyse samples?

- Bead tubes for efficient sample homogenization
- Benefit from our individual and convenient solutions
- Up to 60 % more RNA and DNA compared to standard extraction methods

Nucleic acid isolation from hard to lyse samples

NucleoSpin® Bead Tubes overview

	NucleoSpin® Bead Tubes	REF	Recommended for	In conjunction with
	Type A 0.6–0.8 mm ceramic beads	740786.50	Soil, sediment, stool samples	MN Bead Tube Holder (REF 740469) on a Vortex-Genie® 2 or with a mixer mill (e.g., Retsch®)*
	Type B 40–400 µm glass beads	740812.50	Bacteria	MN Bead Tube Holder (REF 740469) on a Vortex-Genie® 2 or with a mixer mill (e.g., Retsch®)*
	Type C 1–3 mm corundum	740813.50	Yeast, fungi	MN Bead Tube Holder (REF 740469) on a Vortex-Genie® 2 or with a mixer mill (e.g., Retsch®)*
	Type D 3 mm steel beads	740814.50	Insects, crustaceans, lipid-rich samples	MN Bead Tube Holder (REF 740469) on a Vortex-Genie® 2 or with a mixer mill (e.g., Retsch®)*
	Type E combination of 3 mm steel beads and 40–400 µm glass beads	740815.50	Bacteria within insect or tissue samples	MN Bead Tube Holder (REF 740469) on a Vortex-Genie® 2 or with a mixer mill (e.g., Retsch®)*
	NEW: Type F combination of 1–3 mm corundum and 3 mm steel beads	740816.50	Challenging tissues, e.g., spleen, or lung tissue	MN Bead Tube Holder (REF 740469) on a Vortex-Genie® 2 only
	NEW: Type G 5 mm steel beads	740817.50	Plant material	Mixer mill only (e.g., Retsch®)*

* If using a bead mill, please respect warnings in the NucleoSpin® Bead Tubes user manual.

RNA and DNA isolation kit overview

Product	Standard sample material	Bead Tubes
NEW: NucleoBond® RNA Soil	RNA from soil and sediment	Type A (included)
NucleoSpin® Soil	DNA from soil and sediment	Type A (included)
NEW: NucleoSpin® RNA Stool	RNA from fresh or frozen stool samples (human / animal)	Type A (included)
NucleoSpin® DNA Stool	DNA from fresh or frozen stool samples (human / animal)	Type A (included)
NEW: NucleoSpin® RNA Plant and Fungi	RNA from plant material and fungi	Type G (optional, to be ordered separately)
NucleoSpin® Plant II	DNA from plant material and fungi	Type A (optional, to be ordered separately) Type G (optional, to be ordered separately)
NucleoSpin® Food	DNA from food and feed	Type G (optional, to be ordered separately)
NEW: NucleoMag® DNA Food	DNA from food and feed	Type G (optional, to be ordered separately)
NucleoSpin® DNA Insect	DNA from insects, crustaceans	Type D (included) Type E (optional, to be ordered separately)
NucleoSpin® Microbial DNA	DNA from cultured microbes (bacteria, yeast, fungi)	Type B (included) Type C (optional, to be ordered separately)
NEW: NucleoSpin® DNA RapidLyse	DNA from tissue and organs	Type F (optional, to be ordered separately)
NucleoSpin® DNA Lipid Tissue	DNA from lipid-rich tissue such as brain, adipose tissue, fatty fish	Type D (included) Type E (optional, to be ordered separately)

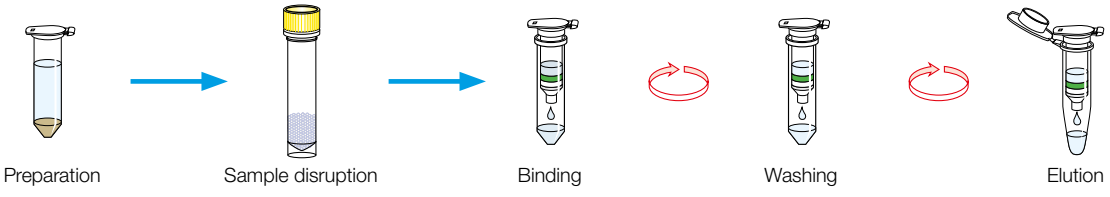
MN Bead Tube Holder

Enables efficient lysis on a Vortex-Genie® in just 20 min!

Procedure

Sample disruption with NucleoSpin® Bead Tubes and the MN Bead Tube Holder or common disruption devices possible!

See user manuals for details on NucleoSpin® Bead Tube processing and procedures.



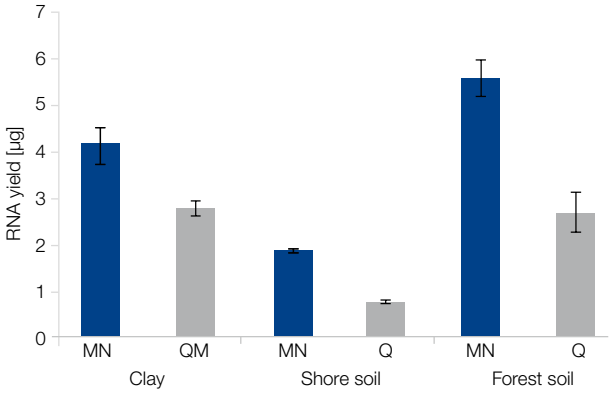
NucleoBond® RNA Soil

- Easy handling and superior speed for metagenomic soil analysis
- Parallel preparation of high quality RNA and DNA* in one hour

Product at a glance

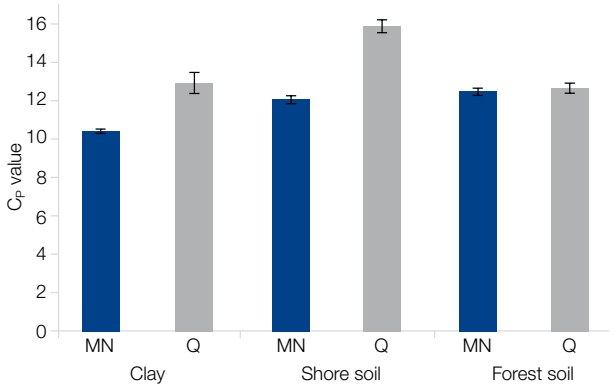
Technology	Anion exchange chromatography technology combined with NucleoSpin® Bead Tubes Type A
Sample material	< 2 g of soil
Fragment size	> 100 nt
Typical yield	1–10 µg
A_{260}/A_{280}	1.7–2.1
Elution volume	100 µL
Preparation time	60 min/6 preps
Binding capacity	600 µg

Application data



High RNA yields with NucleoBond® RNA Soil

Different soil samples (clay, shore soil, forest soil) were purified in duplicates according to the standard procedure. For comparison, the samples were applied to a competitor kit from Q. RNA was eluted in 100 µL and determined photometrically. NucleoBond® RNA Soil convinced due to the high RNA yield.



Amplifiable RNA for perfect results with NucleoBond® RNA Soil kit

Duplicates of different soil samples (clay, shore soil, forest soil) were purified in duplicates according to the standard procedure from MN and Q. 4 µL of eluate was applied to the RT-PCR (amplicon: 466 bp). All MN samples showed lower C_P values compared with Q samples, indicating higher RNA yield.

Ordering information

Product	Preps	REF
NucleoBond® RNA Soil	20	740140.20
DNA Set for NucleoBond® RNA Soil	20	740141.20
Related product		
NucleoBond® RNA Soil Mini	10 / 50	740142.10 / .50
DNA Set for NucleoBond® RNA Soil Mini	10 / 50	740143.10 / .50

* For isolation of DNA, DNA Set for NucleoBond® RNA Soil is required.

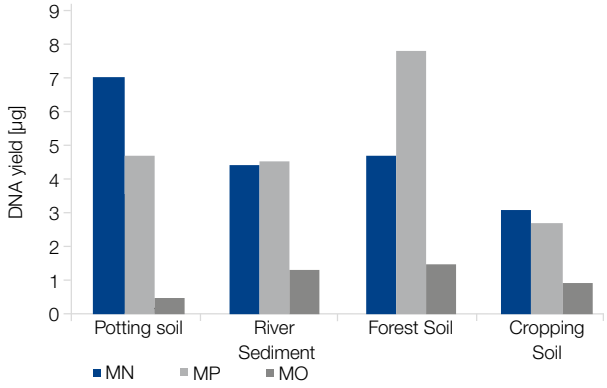
NucleoSpin® Soil

- Approved inhibitor removal technology for efficient removal of PCR inhibitors (like humic acids in soil samples)
- Lysis is supported by mechanical disruption with ceramic beads

Product at a glance

Technology	Silica membrane technology combined with NucleoSpin® Bead Tubes Type A
Sample material	< 500 mg soil, sludge, or sediment
Fragment size	50 bp–approx. 50 kbp
Typical yield	2–10 µg (500 mg soil)
A_{260}/A_{280}	1.6–1.8
Elution volume	30–100 µL
Preparation time	90 min/10 preps
Binding capacity	50 µg

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 isotaled from all samples with NucleoSpin® Soil kit.

References

Merckx et al.: Evolution of endemism on a young tropical mountain

Nature 2015; 524(7565): 347-50

Wagner et al.: 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

Appl Soil Ecol. 2015; 93: 56-64

Ordering information

Product	Preps	REF
NucleoSpin® Soil	10 / 50 / 250	740780.10 / .50 / .250
NucleoSpin® 8 Soil	8 x 12	740779
NucleoSpin® 96 Soil	2 x 96 / 4 x 96	740787.2 / .4

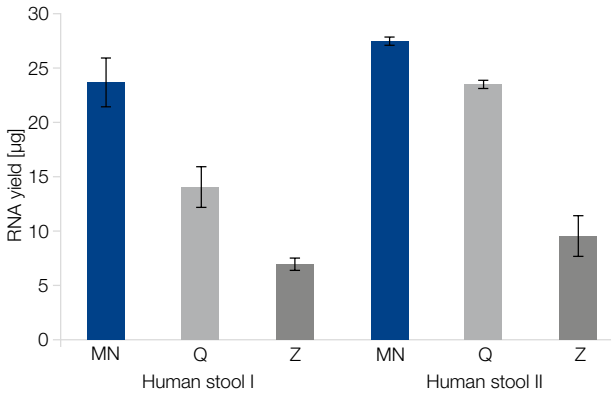
NucleoSpin® RNA Stool

- Suitable for herbivore, omnivore, and carnivore stool samples
- Fastest RNA isolation kit for stool samples on the market

Product at a glance

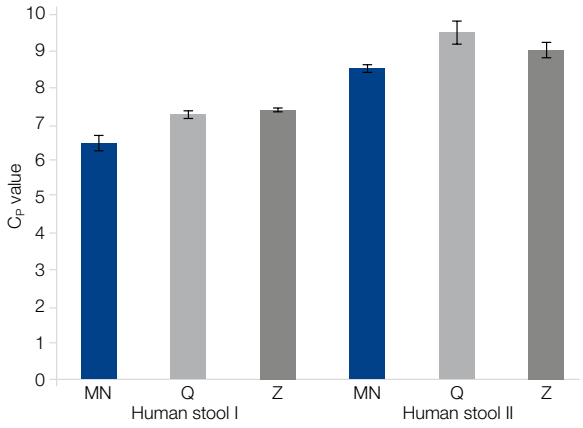
Technology	Silica membrane technology combined with NucleoSpin® Bead Tubes Type A
Sample material	~ 200 mg fresh or frozen stool samples
Fragment size	≥ 18 nt
Typical yield	10–30 µg
A_{260}/A_{280}	1.9–2.1
Elution volume	100 µL
Preparation time	70 min/10 preps
Binding capacity	200 µg

Application data



Highest yield with NucleoSpin® RNA Stool

Two human stool samples (250 mg; MN only 200 mg) were processed in triplicates following the standard protocols including the DNase digestion step. The Q protocol was performed including the optional phenol based lysis step. Each eluate was used for UV spectroscopy to determine RNA yield. The NucleoSpin® RNA Stool showed the highest RNA yield for the human stool samples.



NucleoSpin® RNA Stool shows best performance in qPCR

The NucleoSpin® RNA Stool samples as well as the Q samples were eluted with 100 µL, the Z eluate was adjusted to 100 µL to get comparable RNA concentrations in the eluate. 1 µL of eluate was used for qRT-PCR performed on a Roche® LightCycler® using the SensiFAST™ SYBR® No-Rox One Step Kit (amplicon size 466 bp). NucleoSpin® RNA Stool showed a better performance in the qRT-PCR compared to the two competitor kits.

Ordering information

Product	Preps	REF
NucleoSpin® RNA Stool	10 / 50	740130.10 / .50

NucleoSpin® DNA Stool

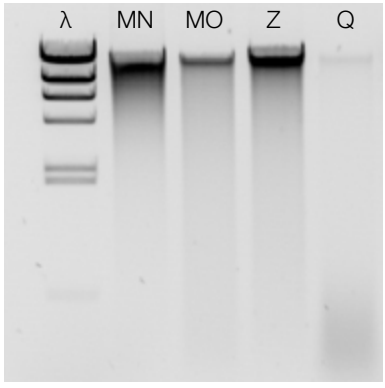
- New technology for efficient removal of PCR inhibitors (like polysaccharides or bile salts in stool samples)
- Lysis is supported by mechanical disruption with ceramic beads

Product at a glance

Technology	Silica membrane technology combined with NucleoSpin® Bead Tubes Type A
Sample material	< 100 mg fresh or frozen stool samples (human / animal)
Fragment size	200 bp–approx. 50 kbp
Typical yield	2–10 µg, strongly depends on sample material
A_{260}/A_{280}	1.7–1.9
Elution volume	30–100 µL
Preparation time	90 min/10 preps
Binding capacity	50 µg

Application data

A



B

	MN	MO	Z	Q
Yield DNA [µg]	9.2	5.8	6.9	7.4
A_{260}/A_{280}	1.8	1.7	1.5	1.9
A_{260}/A_{230}	2.1	1.6	1.2	1.9

High genomic DNA yield and purity from human stool samples.

DNA was isolated from human stool samples with the NucleoSpin® DNA Stool kit (MN) and with competitor products (MO, Z, Q).

A: The DNA was extracted according to manufacturers' protocols and 5 % of the eluate were subjected to gel electrophoresis.

B: DNA yield and quality of the samples shown in (A) were assessed by means of UV absorption measurement. The genomic DNA isolated with the NucleoSpin® DNA Stool kit showed superior yield and quality.

Ordering information

Product	Preps	REF
NucleoSpin® DNA Stool	10 / 50 / 250	740472.10 / .50 / .250

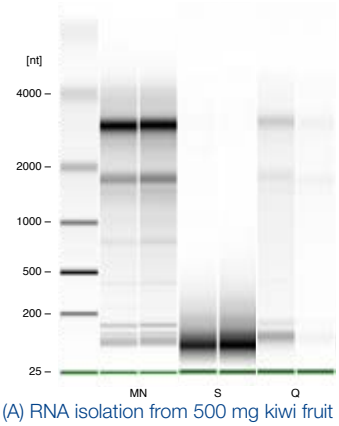
NucleoSpin® RNA Plant and Fungi

- New buffer chemistry allows RNA isolation form all kinds of plant and fungal samples
- NucleoSpin® Plant Filters included – efficient sample homogenization and reduction of viscosity

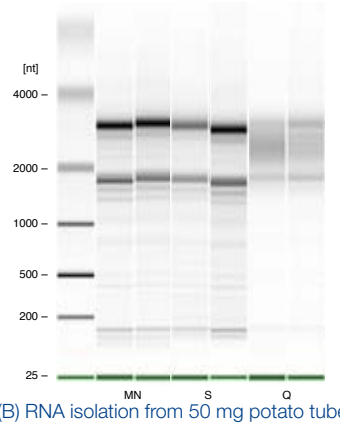
Product at a glance

Technology	Silica membrane technology (optionally combined with NucleoSpin® Bead Tubes Type G)
Sample material	< 500 mg of plant and fungal material
Fragment size	> 200 nt
Typical yield	20–70 µg
A_{260}/A_{280}	1.9–2.1
Elution volume	50 µL
Preparation time	25 min/6 preps
Binding capacity	200 µg

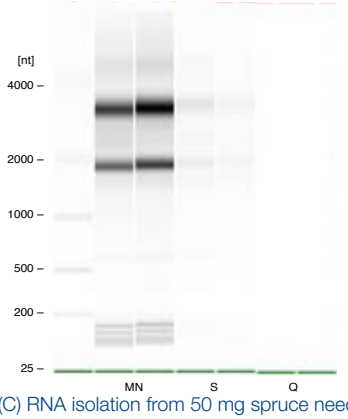
Application data



(A) RNA isolation from 500 mg kiwi fruit



(B) RNA isolation from 50 mg potato tuber



(C) RNA isolation from 50 mg spruce needles

The NucleoSpin® RNA Plant and Fungi kit enables efficient isolation of high integrity RNA from various sample types. After RNA isolation with NucleoSpin® RNA Plant and Fungi (MN) and two competitor products (S, Q), the RNA was analyzed and quantified with an Agilent Bioanalyzer®.

Ordering information

Product	Preps	REF
NucleoSpin® RNA Plant and Fungi	10 / 50 / 250	740120.10 / .50 / .250
Related product		
NucleoSpin® Bead Tubes Type G	50	740817.50

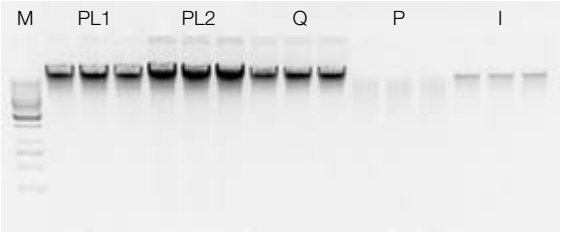
NucleoSpin® Plant II

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

Product at a glance

Technology	Silica membrane technology (optionally combined with NucleoSpin® Bead Tubes Type A or G)
Sample material	< 100 mg of plant and fungal material
Fragment size	50 bp–approx. 50 kbp
Typical yield	Up to 30 µg
A_{260}/A_{280}	1.8–1.9
Elution volume	50–100 µL
Preparation time	30 min/prep
Binding capacity	50 µg

Application data



Comparison to competitor kits

100 mg of fresh fir needles *(Abies alba)* have been processed using the NucleoSpin® Plant II kit (Lysis Buffer PL1 and Lysis Buffer PL2 tested) and competitor products (Q, P, and I). 10 µL of DNA eluate were analyzed on a 1 % TAE agarose gel. Fir needles are known to contain large amounts of hydrophobic compounds that may negatively influence purity of DNA. For this sample material highest yields and best purity of DNA could be obtained with Lysis Buffer PL2.

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	740663.2 / .4
NucleoSpin® 96 Plant II Core Kit*	4 x 96	740468.4
Related products		
NucleoSpin® Bead Tubes Type A	50	740786.50
NucleoSpin® Bead Tubes Type G	50	740817.50
NucleoMag® Plant	1 x 96 / 4 x 96 / 24 x 96	744400.1 / .4 / .24

* Kits with basic content. Accessories can be combined as needed

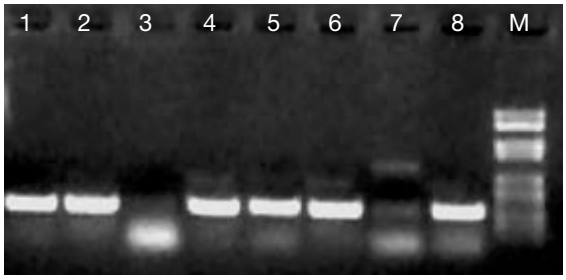
NucleoSpin® Food

- Complete removal of PCR inhibitors allows highest DNA quality
- Even low amounts of partially degraded DNA can be purified from various sample materials

Product at a glance

Technology	Silica membrane technology
Sample material	5–200 mg food and feed
Fragment size	300 bp–approx. 50 kbp
Typical yield	0.1–10 µg, strongly depends on the sample material
A_{260}/A_{280}	1.6–1.9
Elution volume	100 µL
Preparation time	30 min/6 preps
Binding capacity	30 µg

Application data



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.

Data kindly provided by GEN-IAL, Troisdorf, Germany

Samples processed with NucleoSpin® Food

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

Type of sample	Starting material
Food (plant origin)	Raw products: maize, soya, rape, etc. (powder or oil); chocolate products, cocoa, nougat products; breakfast cereals, muesli, nut / chocolate spread; jam and fruit concentrates; cookies, cakes and biscuits; pollen; lecithin; spices; bread
Food (animal origin)	Raw and processed products (meat, sausage, pie)
Pharmaceuticals	Plant (starch) compounds in pharmaceuticals (e.g., tablets) vitamins (e.g., pills)
Cosmetics	Plant and animal ingredients in e.g., crème or powder
Bacteria	E.g., starter cultures

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	740976.2 / .4

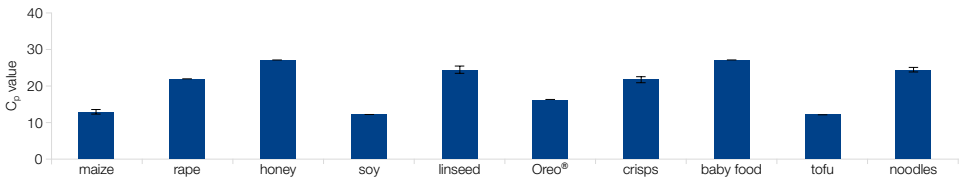
NucleoMag® DNA Food

- DNA extraction from food and feed for e.g., species identification, GMO detection
- Get even low amounts of partially degraded DNA from complex matrices

Product at a glance

Technology	Magnetic bead technology
Sample material	< 200 mg food and feed
Fragment size	300 bp–approx. 50 kbp
Typical yield	0.1–10 µg, strongly depends on the sample material
A_{260}/A_{280}	1.6–1.9
Elution volume	50–200 µL
Preparation time	120 min/96 preps (excl. lysis)
Binding capacity	0.4 µg/µL beads

Application data



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

Various food samples have been uses 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 either tested by qPCR or via agarose gel electrophoresis.

Category	Sample material tested
Raw, vegetable origin	Carrot, potato, soy, maize, rape, linseed, oat, rice, wheat, sunflower seed, grape, seeds (tomato, cucumber, aubergine, melon, pepper), animal food
Raw, animal origin	Deer, pork
Processed, animal origin	Milk, cheese, honey, salami, meat sausage, liver sausage
Processed, vegetable origin	Agave nectar, oatmeal
Complex processed, vegetable origin	Vegetable broth, crisps, pastry, coca, 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

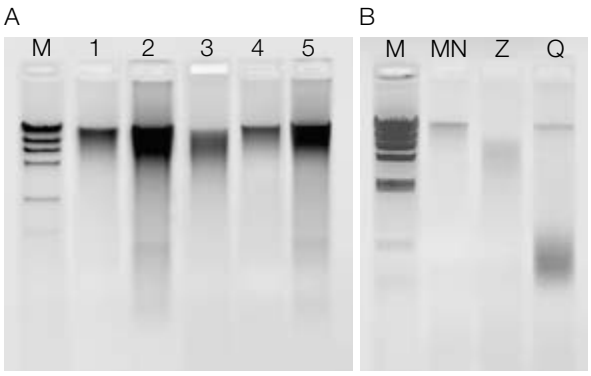
NucleoSpin® DNA Insect

- Allround kit for the isolation of high quality DNA from fresh, frozen, dried, or ethanol preserved insects
- Lysis of an exoskeleton is supported by mechanical disruption with steel beads

Product at a glance

Technology	Silica membrane technology combined with NucleoSpin® Bead Tubes Type D
Sample material	≤ 40 mg fresh, frozen, dried, or ethanol preserved insect / crustacean samples
Fragment size	200 bp–approx. 50 kbp
Typical yield	≤ 25 µg, strongly depends on the sample material
A_{260}/A_{280}	1.7–1.9
Elution volume	25–200 µL
Preparation time	35 min/6 preps
Binding capacity	60 µg

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

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).

Ordering information

Product	Preps	REF
NucleoSpin® DNA Insect	10 / 50	740470.10 / .50

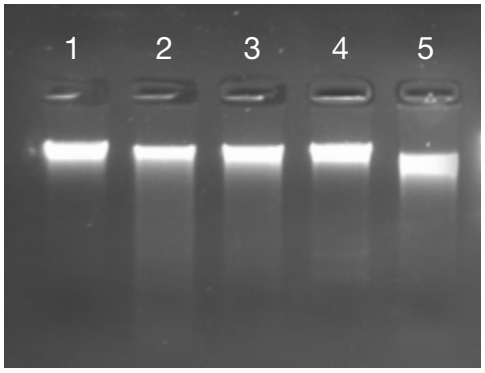
NucleoSpin® Microbial DNA

- Reliable isolation of DNA from microorganisms including yeast, fungi, Gram-negative, and Gram-positive bacteria
- Lysis is supported by mechanical disruption with glass beads

Product at a glance

Technology	Silica membrane technology combined with NucleoSpin® Bead Tubes Type B (optionally Type C)
Sample material	< 40 mg wet weight cell pellet
Fragment size	200 bp–approx. 50 kbp
Typical yield	Approx. 5–25 µg (30 mg wet weight cell pellet), depends on sample type and disruption
A_{260}/A_{280}	1.6–2.0
Elution volume	100–200 µL
Preparation time	35 min/6 preps
Binding capacity	60 µg

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

Various applications

DNA was successfully isolated from the listed microorganisms with the NucleoSpin® Microbial DNA kit.

Microorganism	Tested by
Acinetobacter spec.	Customer
Aspergillus spec.	MN
Bacillus subtilis	MN
Clostridium ljungdahlii	Customer
Corynebacterium glutamicum	MN
Escherichia coli	MN
Eurotium spec.	Customer
Klebsiella pneumoniae	Customer
Microbacterium spec.	Customer
Pichia pastoris	Customer
Pseudomonas aeruginosa	Customer
Rhizopus spec.	MN
Saccharomyces cerevisiae	MN
Staphylococcus epidermis	Customer
Streptococcus pneumoniae	Customer
Trametes spec.	Customer
Vibrio fischerii	MN

Ordering information

Product	Preps	REF
NucleoSpin® Microbial DNA	10 / 50 / 250	740235.10 / .50 / .250
Related product		
NucleoSpin® Bead Tubes Type C	50	740813.50

NucleoSpin® DNA Lipid Tissue

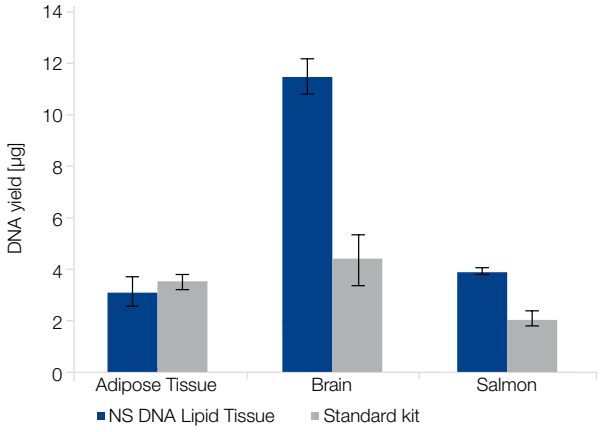
- Efficient lysis of lipid rich tissues is supported by mechanical disruption with steel beads
- Special buffer composition for efficient removal of lipids

Product at a glance

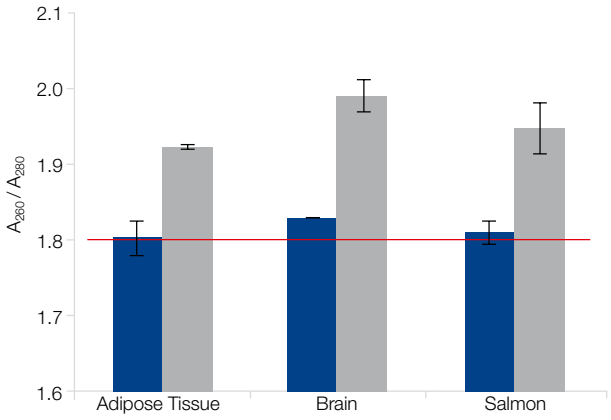
Technology	Silica membrane technology combined with NucleoSpin® Bead Tubes Type D
Sample material	≤ 40 mg fresh or frozen, lipid rich tissues (e.g., brain, adipose tissue, fatty fish tissue)
Fragment size	200 bp–approx. 50 kbp
Typical yield	Depends on sample type, quality, and water content
A_{260}/A_{280}	1.7–1.9
Elution volume	25–200 µL
Preparation time	35 min/6 preps
Binding capacity	60 µg

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

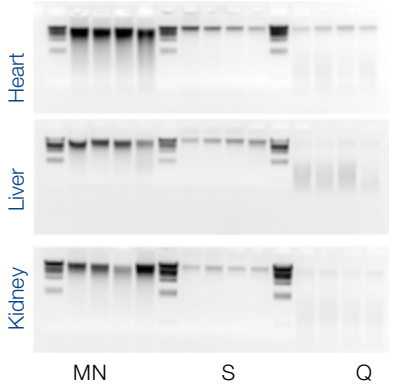
NucleoSpin® DNA Rapid Lyse

- Unique lysis chemistry to efficiently release gDNA from tissues, and organs
- Powerful lysis of any tissue material in maximal 1 hour

Product at a glance

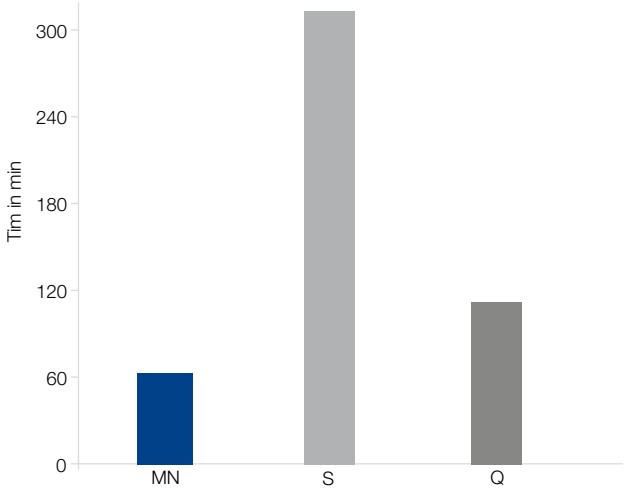
Technology	Silica membrane technology (optionally combined with NucleoSpin® Bead Tubes Type F)
Sample material	≤ 40 mg fresh tissue
Fragment size	200 bp–approx. 50 kbp
Typical yield	Up to 4 µg DNA/mg tissue
A_{260}/A_{280}	1.7–1.9
Elution volume	60–100 µL
Preparation time	25 min/6 preps (excl. lysis)
Binding capacity	60 µg

Application data



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 competitors S and Q.



Time saving procedure

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

Ordering information

Product	Preps	REF
NucleoSpin® DNA Rapid Lyse	10 / 50 / 250	740100.10 / .50 / .250
NucleoSpin® 96 DNA Rapid Lyse	1 x 96 / 4 x 96	740110.1 / .4
Related product		
NucleoSpin® Bead Tubes Type F	50	740816.50

Kits for RNA and DNA extraction

Ordering information

Product	Preps / Pack of	REF
RNA from plant, soil, and stool samples		
NucleoSpin® RNA Plant and Fungi	10 / 50 / 250	740120.10 / .50 / .250
NucleoBond® RNA Soil	20	740140.20
NucleoSpin® RNA Stool	10 / 50	740130.10 / .50
DNA from tissue and cells		
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 and insects		
NucleoSpin® DNA Lipid Tissue	10 / 50	740471.10 / .50
NucleoSpin® DNA Insect	10 / 50	740470.10 / .50
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
DNA from microorganisms		
NucleoSpin® Microbial DNA	10 / 50 / 250	740235.10 / .50 / .250
DNA from soil and stool samples		
NucleoSpin® Soil	10 / 50 / 250	740780.10 / .50 / .250
NucleoSpin® 8 Soil	8 x 12	740779
NucleoSpin® 96 Soil	2 x 96 / 4 x 96	740787.2 / .4
NucleoSpin® DNA Stool	10 / 50 / 250	740472.10 / .50 / .250
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
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	740816.50
NucleoSpin® Bead Tubes Type G	50	740817.50
MN Bead Tube Holder	1	740469

*Kits with basic content. Additional accessories can be combined as needed.

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