NucleoSpin® Tissue

Genomic DNA Purification Products from MACHEREY-NAGEL

Genomic DNA Mini spin kit

Unlimited use with maximum performance!

NucleoSpin® Tissue

Forensics
Veterinary testing
Genotyping
Biological and medical research

Count on validated quality

BIOKÉ
sharing knowledge

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Choose NucleoSpin® Tissue for your genomic DNA isolation and take advantage of our experience in DNA extraction!

Enhance your flexibility

DNA isolation from a wide variety of sample materials, covering clinical and forensic samples, tissues, cells, yeast, bacteria, blood, buffy coat, and viruses.

More than 16 support protocols are available, optimized for your demands.

Increase DNA yield and performance

Highly sensitive silica membrane technology giving you maximum yield and purity. PCR inhibitors are removed effectively.

Get reliable results

High quality DNA, validated in numerous downstream applications including genetic fingerprinting, real-time PCR, restriction enzyme digests, and sequencing.

Product at-a-glance

Technology:	Silica-membrane technology
Format:	Mini spin columns
Sample material:	1 – 25 mg tissue; 10^2 – 10^7 cells
Fragment size:	200 bp to >30 kbp
Typical yield:	20 – 35 µg
Binding capacity:	60 µg
Typical Ratio A_{260}/A_{280}:	1.7 – 1.9
Elution volume:	60 – 100 µl
Preparation time:	~ 20 min/prep (excl. lysis)

References

NucleoSpin® Tissue shows proven reliability in DNA purification from different sample materials.

Following table presents a selection of peer-reviewed publications citing NucleoSpin® Tissue.

Sample material	DNA application	Publication
Dried blood spots on newborn screening cards	DNA virus detection by PCR	C. S. Gibson *et al.*, **BMJ** 332, 2006
Buccal swabs	PCR of Y-chromosomal STR loci	H. Rodig *et al.*, **Int J Legal Med**. 121(1), 2007
Mice ear markings	PCR of Car9 and Car2 gene targets	P. Pan *et al.*, **J. Physiol.** 571, 2006
Cells (ciliate *Oxytricha trifallax*)	PCR	M. Nowacki *et al.*, **Nature** 451, 2007
FFPE tissue (Formaline Fixed Paraffin-Embedded)	Determination of the methylation status of a promoter	R. Schneider-Stock *et al.*, **J. Clin. Oncol.** 21, 2003
Ants (ethanol preserved)	PCR, target: mitochondrial DNA, cytochrome oxidase	R. Savolainen and K. Vepsäläinen, **PNAS** 100, 2003
Rat tails and **embryonic tissue**	Genotyping to distinguish between wild type and aralar deficiant animals	B. Pardo *et al.*, **J. Biol. Chem.** 281(2), 2006
Microdissected frozen and/or **paraffin-embedded tissue**	Mutation analysis using PCR and automated sequencing	V. Máximo *et al.*, **British Journal of Cancer** 92, 2005
Malignent melanoma	Array-CGH and mutation analysis	G. Jönsson *et al.*, **Oncogene** 26, 2007
Wasp leg, small pieces (1 mm long)	PCR, a 658-bp target, near the 5 terminus of the CO1 gene	M. A. Smith *et al.*, **PNAS** 105(35), 2008
Cells, parental and lentivirally transduced	PCR, Target: HSV-TkEGFP	R. Uch *et al.*, **Cancer Gene Therapy** 10, 2003

- High yield and purity
- Fast and simple procedure
- Tested for your application

Application Data

Clinical Application

Detection of CMV virus in different clinical samples

Cytomegalovirus (CMV) belongs to the family of *Herpesviridae* that contains large double stranded DNA genomes. The virus is widely spread and transferred by direct contact. The detection of CMV from different matrices requires sensitive purification of genomic DNA as well as effective removal of PCR inhibitors for a successful subsequent DNA amplification.

Figure 1 shows PCR results of DNA purified from urine, liquor, feces, mother's milk, and plasma with NucleoSpin® Tissue. CMV can be detected in mother's milk as well as in several samples from the child (marked with arrows). The other samples do not carry the virus.

NucleoSpin® Tissue allows successful DNA isolation from a large variety of clinical samples.

1: marker
2: urine sample from child
3: liquor sample from child
4: feces sample from child
5: plasma sample from mother
6: mother's milk
7: urine sample from mother
8: positive control
9: negative control
10: 100 bp ladder

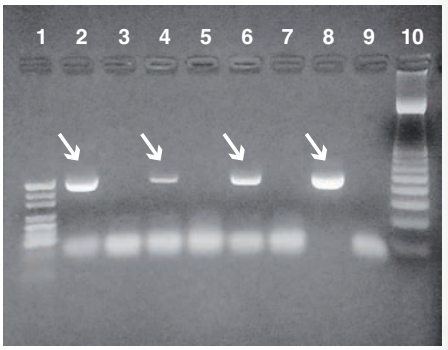

Fig. 1: Agarose gel electrophoresis of a CMV specific nested PCR product (495 bp)

Data kindly provided by Dr. Tiemann, Laboratory Prof. Hagedorn, Herford, Germany

Zoological Research

Isolation of DNA from aged tissue samples (wood mouse, Apodemus sylvaticus*)*

Ethanol preserved samples of wood mouse tissue (25 mg) were subjected to DNA isolation with NucleoSpin® Tissue following the standard protocol. The ages of the samples were 1 year (sample 1), 44 years (sample 2), and 102 years (sample 3).

Figure 2 shows gel electrophoresis of the isolated genomic DNA which was successfully isolated from all three specimens. High molecular DNA was isolated from sample 1. DNA fragments of samples 2 and 3 are shorter due to the age of the samples. Yield and purity of DNA were measured with NanoDrop™.

NucleoSpin® Tissue allows the isolation of highly pured DNA, even from aged samples.

Sample	1	2	3
Age	1 year	44 years	102 years
Yield	9.9 µg	6 µg	2.9 µg
Ratio A_{260}/A_{280}	1.79	1.82	1.89

L: DNA Ladder (GeneRuler™ 100 bp Plus; 100-3000 bp)
1: Genomic DNA from 1 year old sample
2: Genomic DNA from 44 year old sample
3: Genomic DNA from 102 year old sample

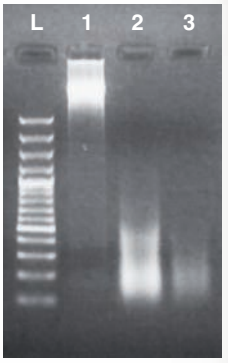

Fig. 2: Agarose gel electro phoresis of genomic DNA.

Data kindly provided by C. Etzbauer and C. Blume; Zoologisches Forschungsmuseum (zoological research museum) Alexander König, Bonn, Germany

NucleoSpin® Tissue

Application Data (cont.)

Veterinary Testing

*Isolation of genomic DNA from koi (*Cyprius carpio*) and amplification in real-time TaqMan® PCR*

NucleoSpin® Tissue was used to isolate DNA from samples of three Koi gills. Koi glucokinase was amplified in real-time TaqMan® PCR, following the protocol described by Gilad *et al.* (2004). Figure 3 shows the results of the successful amplification of all tested samples.

NucleoSpin® Tissue for reliable isolation of high quality genomic DNA from veterinary samples.

Red: Koi gill 1
Grey: Koi gill 2
Green: Koi gill 3
Blue: Negative control
Yellow: No template control

Data kindly provided by the Staatliches Veterinäruntersuchungsamt (Governmental Veterinary Testing Department) Arnsberg, Germany

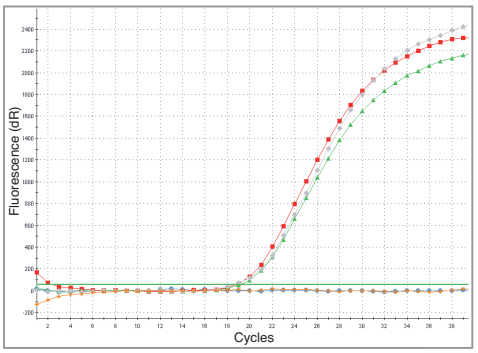

Fig. 3: Real time TaqMan® PCR results of koi DNA

Ordering information

Product	Preps	Cat. No.
Mini spin columns ***NucleoSpin® Tissue*** Mini spin kit for the isolation of genomic DNA from a wide variety of samples. Optimized protocols - validated for numerous applications.	10/50/250	740952.10/.50/.250

Related products

XS spin columns ***NucleoSpin® Tissue XS*** Mini spin kit for the isolation of highly concentrated genomic DNA from **X**tra **S**mall samples. Allows elution in only 5 µl.	10/50/250	740901.10/.50/.250
Funnel columns ***NucleoSpin® DNA Trace*** Funnel columns for forensic samples. Allows sample extraction in high volume of lysis buffer for highest flexibility.	4/25	740942.4/.25
Medium and high throughput solutions ***NucleoSpin® 8 Tissue*** 8-well strips for your flexibility. For manual or automated high throughput isolation of genomic DNA.	12x8/60x8	740740/.5
NucleoSpin® 96 Tissue 96-well plates for fast parallel preperations of 96 samples. For manual or automated high throughput isolation of genomic DNA.	2x96/4x96/24x96	740741.2/.4/.24
Magnetic Bead Technology – Medium and high throughput solutions ***NucleoMag 96 Tissue*** For manual or automated isolation of genomic DNA.	1x96/4x96/24x96	744300.1/.4/.24

Visit ***www.mn-net.com/bioanalysis*** for detailed information

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