

MACHEREY-NAGEL

# NucleoMag<sup>®</sup> DNA FFPE

Automated purification of DNA from formalin-fixed, paraffin-embedded samples on the automation platform KingFisher<sup>™</sup> Flex.



## Introduction

MACHEREY-NAGEL developed an odorless Paraffin Dissolver (patented) which allows effective lysis in a convenient two phase system. The NucleoMag<sup>®</sup> DNA FFPE kit is designed for high throughput DNA purification from formalin-fixed, paraffin-embedded samples. The kit contains the Paraffin Dissolver and a tailored buffer chemistry for complete decross-linking of formalin-fixed samples.

The optimized protocol allows the processing of 96 samples within 30 minutes on the automation platform KingFisher<sup>™</sup> Flex.

## Products at a glance

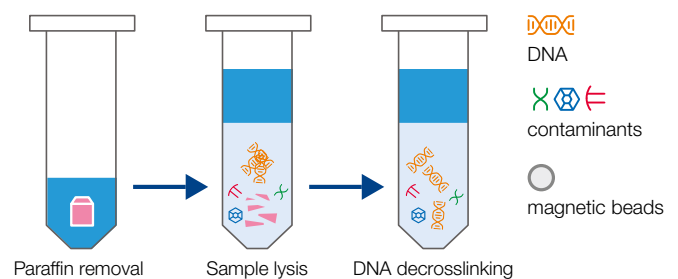
### NucleoMag<sup>®</sup> DNA FFPE

Technology	Magnetic beads
Sample material	< 5 mg tissue; < 15 mg paraffin
Preparation time	30 min on KingFisher <sup>™</sup> Flex for 96 samples (excluding deparaffinisation & lysis)
Typical yield	Strongly depended on sample type and amount
Elution volume	> 25 µL
Binding capacity	0.4 µg / µL beads

### King Fisher<sup>™</sup> Flex

Sample volume	20 – 5000 µL
Elution volume	20 – 100 µL
Capacity (samples per run)	24/96 (8 plates per deck)
Heating / cooling	4 – 96 °C
Size / weight	60 x 38 x 68 cm / 28 kg

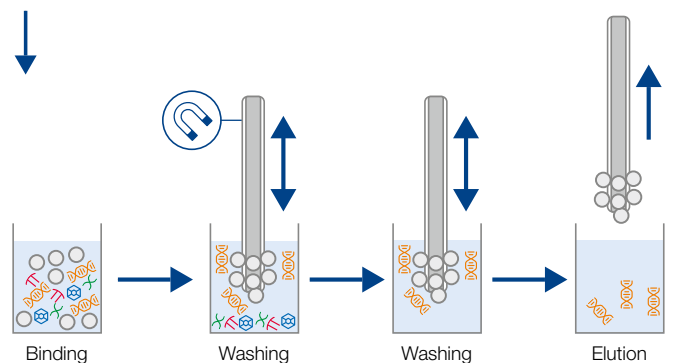
## Material and methods



The paraffin is removed from the tissue with the Paraffin Dissolver. Tissue digestion is performed in a convenient two-phase system with an effective lysis buffer. The released DNA in the lower aqueous phase is still highly crosslinked. Heat incubation in a special decrosslinking buffer is carried out to separate the DNA.



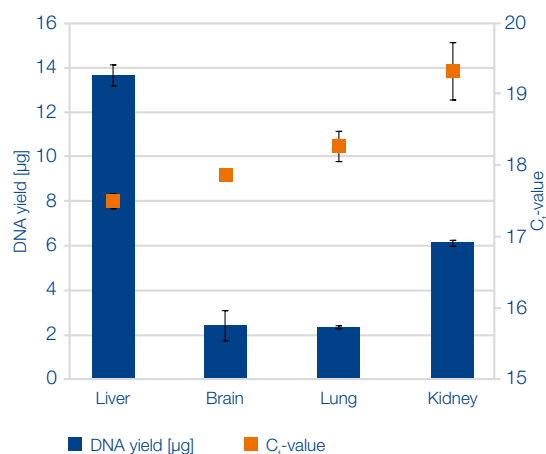
Subsequent DNA isolation is performed on the automation platform KingFisher<sup>™</sup> Flex. The isolation principle is based on reversible adsorption of nucleic acids to paramagnetic beads under appropriate buffer conditions.



After magnetic separation, the paramagnetic beads are washed to remove contaminants and salts using two different wash buffers. Pure genomic DNA is finally eluted under low ionic strength conditions in a slightly alkaline elution buffer.

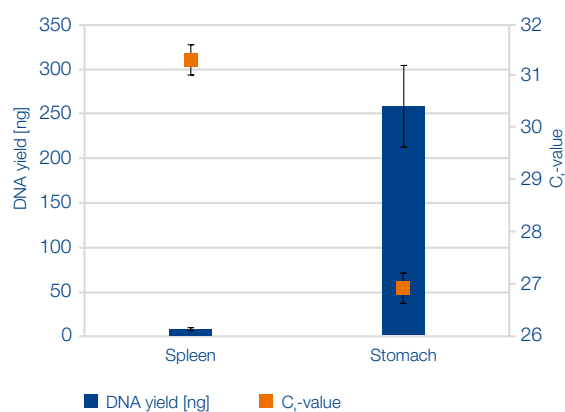
## Application Data

### 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 mm<sup>2</sup>; liver 70 mm<sup>2</sup>; lung 40 mm<sup>2</sup>; kidney 40 mm<sup>2</sup>. 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 mm<sup>2</sup>; stomach 150 mm<sup>2</sup>. 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	Specifications	Preps	REF
NucleoMag® DNA FFPE	Kit based on magnetic bead technology for the isolation of genomic	1 x 96	744320.1
	DNA from formalin-fixed paraffin-embedded samples	4 x 96	744320.4
KingFisher™ Accessory Kit A	1 set KingFisher™ Deep-well Block, Deep-well Tip Combs, Elution Plates, for 4 x 96 preps of NucleoMag® Tissue / DNA FFPE / DNA Forensic / Virus/ VET using KingFisher™ Flex platform	4 x 96	744950

NucleoMag® is a registered trademark of MACHEREY-NAGEL; KingFisher™ and Quantifiler™ are registered trademarks of Thermo Scientific Inc.

## Automate your FFPE sample handling

MACHEREY-NAGEL delivers a ready to go solution for your high throughput FFPE sample processing. We adapted the NucleoMag® DNA FFPE procedure on the KingFisher™ instruments to speed up your nucleic acid purification workflow.

- Excellent recovery and easy handling due to patent pending paraffin removal buffer
- Ultra fast procedure of 96 samples in 30 minutes (excluding deparaffinisation & lysis)