

Selection Guide

for DNA, RNA, and
protein purification products



Plasmid DNA



Clean-up



RNA



Genomic DNA



Viral RNA/DNA



Protein



High throughput



MACHEREY-NAGEL Bioanalysis

Since 1993 MACHEREY-NAGEL has been successfully developing, producing, and worldwide marketing a comprehensive range of ready-to-use kits and consumables for purification of nucleic acids (DNA and RNA) and proteins. MN has become an important brand of high-quality products in sample preparation. Our products cover a broad range of applications and are highly esteemed in leading laboratories worldwide. The company provides

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

Selection guide for DNA, RNA, and protein purification products

This selection guide presents an overview of the broad portfolio of MN products for DNA, RNA, and protein purification. It also serves as a guide to find the most suitable

product for every application from the growing range of MN Bioanalysis products.

How to use the selection guide

As seen on pages 2 and 3, the product groups are shown based on a list of commonly performed applications. After identifying the application and starting material/target

molecule of your personal interest, follow the corresponding numbers to select the kits that relate to your lab focus.

Plasmid DNA

Application
Cloning
Sequencing
Transfection / -formation
Gene therapy
Gene regulation studies

Grade of purified plasmid DNA	No.
Transfection-grade plasmid DNA	No. 1–2
Transfection-grade, endotoxin-free plasmid DNA	No. 3–4
Plasmid DNA concentration and desalting	No. 5
Sequencing-grade plasmid DNA	No. 6–9

Clean-up

Application
Cloning
Sequencing (NGS, Sanger)
Nucleic acid amplification
Gene regulation studies
Forensics

Starting material	No.
PCR reaction mixtures	No. 10–14
Gel slices	No. 15–16
Pre-purified genomic DNA	No. 17–18
Pre-purified RNA	No. 19–20
Sequencing reaction mixtures	No. 21
Reaction mixtures from NGS library kits	No. 22

RNA

Application
Gene regulation studies
Gene expression profiling
Gene silencing
Molecular phenotyping
Drug development / screening
Transfection / -formation

Target molecule / starting material	No.
RNA from cells and tissue	No. 23–28
MicroRNA	No. 29–32
RNA, DNA, and protein	No. 33–35
RNA from blood	No. 36–38
RNA and microRNA from FFPE samples	No. 39–40
RNA from plant	No. 41
Poly(A) mRNA from total RNA	No. 42

Genomic DNA

Application
Genotyping
Functional genomics
Metagenomics
Animal breeding
Plant breeding
Forensics
Veterinary testing
Infection diagnostics
Environmental testing
Food testing

Starting material	No.
Blood and biological fluids	No. 43–50
Plasma	No. 51
Tissue and cells	No. 52–55
FFPE samples	No. 56
Forensic samples	No. 57–60
Plant and fungi	No. 61–65
Soil, sludge, and sediment	No. 66–67
Food and feed	No. 68–69

Viral RNA / DNA

Application
Molecular diagnostics
Infection diagnostics
Viral research / diagnostics
Veterinary testing

Starting material	No.
Cell-free body fluids	No. 70–74
Blood, tissue, feces	No. 75
Blood and biological fluids	No. 76

Protein

Application
Recombinant protein purification
Protein engineering
Protein structure analysis
Protein function analysis
Drug development

Affinity tag	No.
His-tag proteins	No. 77–89
GST-tag proteins	No. 90–92

Service Bioanalysis

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NucleoBond®		NucleoSpin®	
Technology	Anion-exchange chromatography	Silica-membrane technology	
Separation principle	Ionic interaction of negatively charged DNA and positively charged silica resin	Chaotropic salt binding	
Material	Modified, macroporous silica particles	Silica membrane	
Format	Gravity-flow columns (e.g., Midi, Maxi)	<ul style="list-style-type: none"> • Spin columns: low-throughput systems, from extra small to extra large scale • 8-well strips, 96-well plates: medium- and high-throughput systems, for vacuum manifolds, centrifuges, and robotic systems 	
Result	Ultra-pure, transfection-grade DNA/RNA	Ready-to-use, sequencing and PCR-grade DNA/RNA	
NucleoTrap®		NucleoTrap® mRNA	NucleoFast®
Technology	Silica-matrix technology	Affinity chromatography	Ultrafiltration
Separation principle	Chaotropic salt binding	Hybridization	Filtration
Material	Silica particles	Oligo(dT) latex beads	Ultrafiltration membrane
Format	Aqueous suspension	Aqueous suspension	96-well plates, high-throughput systems, for vacuum manifolds, centrifuges, and robotic systems
Result	Ready-to-use, sequencing and PCR-grade DNA	Ready-to-use, sequencing and PCR-grade poly(A) mRNA	Ready-to-use, sequencing and PCR-grade DNA
NucleoSEQ®		NucleoMag®	
Technology	Gel-filtration	Magnetic-bead technology	
Separation principle	Size exclusion	Chaotropic salt binding	
Material	Size exclusion matrix	Superparamagnetic beads (non-silica)	
Format	Spin columns filled with dry matrix	Flexible, easily adapted to automated use	
Result	Removal of sequencing dye terminators	Highly-pure ready-to-use DNA/RNA	
Protino® Ni-IDA/TED		Protino® Ni-NTA Agarose	Protino® Glutathione Agarose 4B
Technology	Purification of polyhistidine (His)-tagged proteins Affinity chromatography (IMAC, immobilized metal ion affinity chromatography)	Purification of polyhistidine (His)-tagged proteins Affinity chromatography (IMAC, immobilized metal ion affinity chromatography)	Purification of Glutathione-S-transferase (GST)-tagged proteins Affinity chromatography
Separation principle	Interaction between the His-tag of the recombinant protein and immobilized Ni ²⁺ ions, elution with imidazole	Interaction between the His-tag of the recombinant protein and immobilized Ni ²⁺ ions, elution with imidazole	Interaction between the GST-tag of the recombinant protein and immobilized glutathione, elution with free glutathione
Material/backbone	Macroporous silica with immobilized Ni ²⁺	6% beaded agarose (cross-linked) precharged with Ni ²⁺	4% beaded agarose with immobilized glutathione
Format	Dry material • Dry bulk matrix for gravity-flow chromatography, batch binding, FPLC™ • Gravity-flow columns • 96-well plates	50% aqueous suspension containing 30% ethanol • Bulk resin for gravity-flow chromatography, batch binding, FPLC™ • Ready-to-use columns for FPLC™	75% aqueous suspension containing 20% ethanol • Bulk resin for gravity-flow chromatography, batch binding, FPLC™ • Ready-to-use columns for FPLC™

Your local distributor

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