NucleoBond® Xtra Midi EF/Maxi EF

Sales Guide

Positioning

High-quality, ultra-pure plasmid DNA for

- Transfection of highly endotoxin-sensitive cell lines i. e., primary cells, stem cells, immune cells
- Viral vector production i. e. AAV, lentivirus
- *In vivo* experiments (research on gene therapy, microinjections, vaccines)
- *In vitro* transcription

Customer fields / application

Biopharma

- Gene therapy development
- CAR-T cell therapies
- mRNA therapeutics/vaccines (*in vitro* transcription)
- Viral vector production (AAV, lentivirus)

Biotechnology

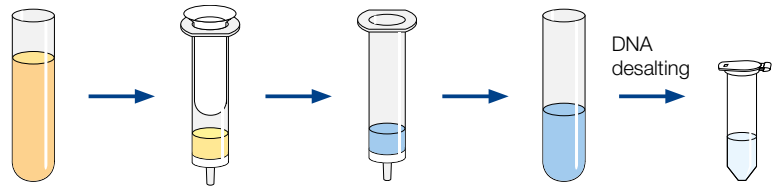
- Gene regulation / function studies
- Bioengineering (engineered cell lines)
- *In vivo* experiments (animal models)
- Viral vector production (AAV, lentivirus)
- CRISPR/Cas9 & genome editing

Research institutes/Universities

- Basic research (cloning, transfection)
- CRISPR/Cas9 & genome editing
- *In vivo* experiments (animal models)

Features

- Gold standard purification for high-quality endotoxin-free plasmid DNA
- Target: Plasmid DNA (< 300kbp) from *E.coli* / bacterial cultures
- Output: High-yield endotoxin-free plasmid DNA: ≤ 0.05 EU/µg DNA; typical yield 0.5 mg (Midi), 1 mg (Maxi)
- Convenient and fast workflow
  - Visual lysis control
  - Lysate filter for combined clarification and column loading step
  - Optimized anion-exchange column operated via gravity flow
  - Patented endotoxin removal by additional washing step



- High DNA purity: A260 / A280 = 1.8 – 1.95
- Shelf life: 39 months from production
- Plus Version: Almost twice as fast! EF Kit + NucleoBond® Finalizer for fast DNA concentration and desalting, for ≤ 50 kbp DNA only!
- Downstream applications: Sensitive and standard transfection, transformation, nucleic acid sequencing (NGS), PCR and cloning, see section 'Positioning'
- Midi Version is automatable on the Andrew+ pipetting robot

Outstanding yields, ultra-pure plasmid DNA, convenient workflow

Easiest lysate clarification with our kit!

One step only:

1. Add lysate to our lysate filter (patented previously).

Laborious competitor lysate clarification

a) Centrifugation:

1. Centrifuge lysate (long time)
2. Transfer supernatant carefully

b) Filter syringe:

1. Short centrifugation
2. Apply supernatant into the filter syringe
3. Short waiting time
4. Press lysate through syringe

For few samples fine, for many samples laborious. Handling can be troublesome if the supernatant has flocculant or a flowing layer – risk of filter clogging!

Version	Sample input	Typical Yield	Theoretical Binding Capacity	EF kits Protocol time	EF Catalog. no. Preparations	Plus EF Kit Protocol time	Plus EF Catalog no. Preparations
Midi	< 200 mL (high copy), < 400 mL (low copy)	500 µg	1000 µg	85 min / prep	740420.10 / .50 (10 / 50 preps)	45 min / prep	740422.10 / .50 (10 / 50 preps)
Maxi	< 600 mL (high copy) < 1200 mL (low copy)	1000 µg	3000 µg	90 min / prep	740424.10 / .50 (10 / 50 preps)	50 min / prep	740426.10 / .50 (10 / 50 preps)

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Benefits & Key selling points

- Outstanding yields: 0.5 mg (Midi), 1 mg (Maxi)
- Best measured endotoxin levels
- Patented endotoxin removal
- Convenient and fast processing
- Easiest lysate clarification, visual lysis control
- All kit components are available separately

MACHEREY-NAGEL branding

- Excellent price-performance ratio
- Immediate delivery from stock; made in Germany
- Comprehensive support – from basic to expert R&D consulting
- Flexible formats (Midi, Maxi)
- MN-Takara relationship – workflow bundling

NucleoBond® Xtra Maxi EF - Competitors

Anion-exchange competitors (gravity flow processing)

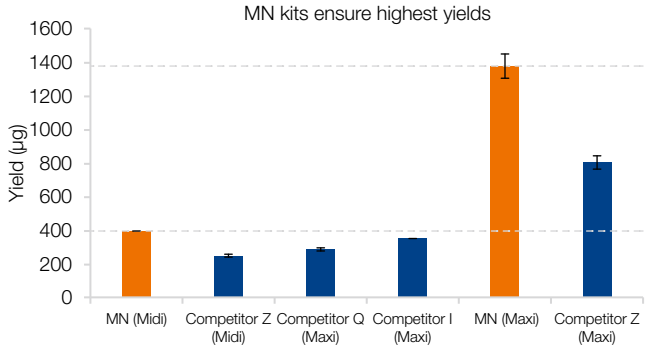
QIAGEN EndoFree® * Plasmid Maxi Kit

Neutral: < 0.04 EU / µg Plasmid DNA, visual lysis cotrol
Cons: typical yield 0.3 – 0.5 mg (high-copy), 125 min, 'Cosmid DNA may be tricky'

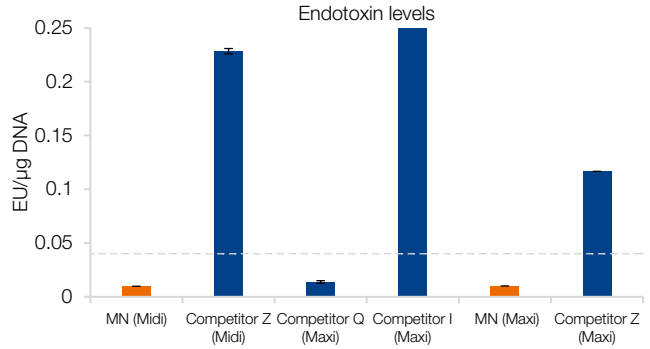
Thermo Fisher Scientific Purelink™ * Expi Endotoxin-Free Maxi Plasmid

Neutral: < 0.1 EU / µg DNA, visual lysis control, 90 min, yield ≤ 1.5 mg (typical 1 mg, 0.2 mg for big Plasmid DNA)
Cons: no columns sold separately, lysate clarification step (column clogging risk)

Outstanding yields and ultra-pure plasmid DNA



Direct comparison of total plasmid yields (pcDNA3.1) grown in LB medium isolated with NucleoBond® Xtra Midi EF and Maxi EF as well as different competitor kits according to the respective user manual.



Endotoxins in EU / µg DNA were determined after plasmid DNA isolation with NucleoBond® Xtra Midi EF and Maxi EF with rFC Test. The DNA eluates show levels below the FDA limit for vaccines (< 0.04 EU / µg DNA).

NucleoBond® Xtra Maxi EF - Competitors

Silica-membrane based competitors (centrifugation/vacuum processing)

Sigma-Aldrich (MERCK)
GenElute™ * HP Endotoxin-Free Plasmid Maxiprep Kit

Neutral: ≤ 1.2 mg yield, ca. 50 min
Cons: < 0.1 EU / µg DNA, no lysis control, no columns sold separately, lysate clarification (VacCap clogging risk)

Zymo Research ZymoPURE™ * II Plasmid Maxiprep Kit

Pros: ~20 min
Neutral: visual lysis control, columns sold separately, ≤ 1 EU / µg with standard protocol, ≤ 0.025 EU/µg with EndoZero™ II Spin-Column, < 3 mg yield (typical 0.6 – 1.2 mg),
Cons: ZymoPURE™ Syrine Filter for lysate clearing (5 – 8 min waiting, filter clogging risk), < 200 kb vector size

Thermo Fisher Scientific
GeneJET™ * Endo-Free Plasmid Maxiprep Kit

Pros: 60 min
Neutral: < 0.1 EU / µg DNA, ≤ 1 mg yield (0.2 mg for big Plasmid DNA)
Cons: no visual lysis control, no columns sold separately, rich growth media is not recommended

Omega Bio-tek
E.Z.N.A.® * Endo-Free Plasmid DNA Maxi Kit

Neutral: 0.6 – 1.2 mg (high-copy)
Cons: < 60 min (> 100 min incl. DNA concentration), lysate clearance filter syringe, < 1 EU / µg DNA

MN Battlecard NucleoBond® Xtra Midi EF / Maxi EF en1a

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