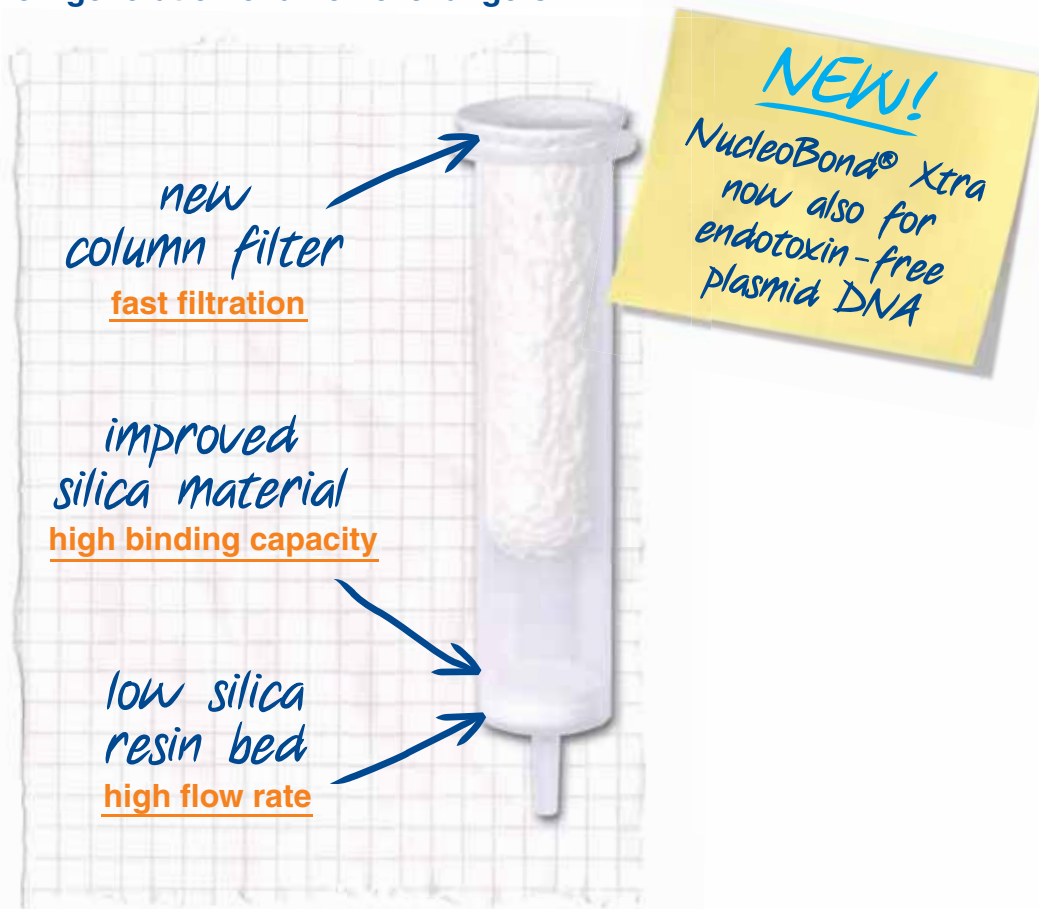


Did you ever wish for faster large-scale plasmid purification...

And how about endotoxin-free plasmid DNA...

## NucleoBond® Xtra Midi/Maxi/EF

The new generation of anion exchangers



### **Xtra fast** - save up to 60% of your time

#### NucleoBond® Xtra Column Filter for lysate clarification

- ✓ high filter flow rates due to large and structured surface
- ✓ parallel clearing of lysate and loading onto the column - just one step!

#### NucleoBond® Xtra Columns

- ✓ large column diameter + low silica resin bed = high column flow rates

#### NucleoBond® Finalizer

- ✓ NucleoBond® Xtra (EF) Plus kits contain NucleoBond® Finalizers to speed up DNA precipitation - no centrifugation required!



### **Xtra high yields** - increase your yield of transfection-grade DNA up to 100%

- ✓ improved silica material with higher DNA binding capacity
- ✓ optimized buffer compositions increase efficiency of alkaline lysis and flow rate
- ✓ typical yields: Midi ≥ 250 µg / Maxi ≥ 1000 µg

### **Xtra for you** - get highest purity of DNA, it's proven anion-exchange technology!

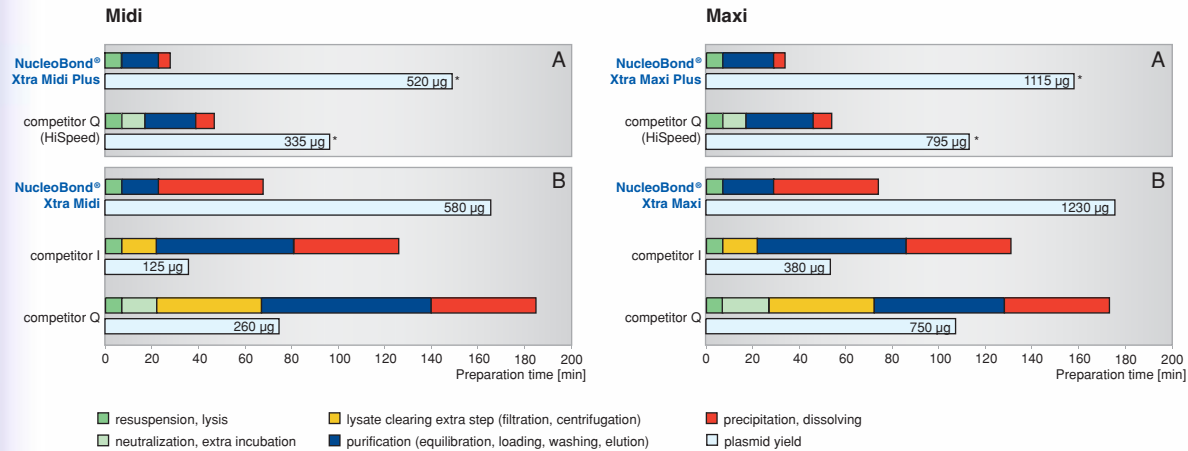
## NucleoBond® Xtra Midi / Maxi transfection-grade plasmid DNA

### Higher plasmid yield in less time – comparison to competitor anion-exchange based kits

Plasmid DNA was isolated following each manufacturer's protocol using the maximum culture volume with high plasmid content. Yield of plasmid DNA (□) was determined after DNA precipitation.

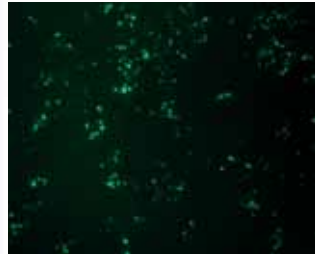
Comparison: A) Kits including desalting tool, B) Kits without desalting tool (centrifugation required for DNA precipitation).

### NucleoBond® Xtra: Up to 60% time saving and up to 100% higher yields compared to competitor products



\* Yield of plasmid DNA is slightly lower due to residual DNA remaining on the desalting tool (compared to kits without desalting tool).

### Comparison of transfection efficiencies using NucleoBond® Xtra Maxi and a competitor product respectively



NucleoBond® Xtra Maxi



product Q

Plasmid purification: 6 kb high-copy Plasmid, bacterial strain: *E. coli* DH5α®, purification according to each manufacturers' protocol using the maximum culture volume with high plasmid content.

**NucleoBond® Xtra Maxi:** plasmid yield: 1222 µg, purity  $A_{260/280}$ : 1.84

**Product Q (Maxi prep):** plasmid yield: 557 µg, purity  $A_{260/280}$ : 1.86

Transfection experiment: HEK293 cells transfected in 12-well plates,  $2.5 \times 10^4$  cells/well, transfection with 0.1-0.25 µg plasmid DNA/well, transfection reagent: FuGENE® HD/6 (Roche, 1.5 µl/well), results shown after 48 hours.

Results: HEK293 cells transiently expressing Gephyrin (Polypeptide, associated with the postsynaptic receptor complex, with a key role in organization of the postsynaptic membrane) fused to EGFP (Enhanced Green Fluorescent Protein) as a reporter.

### NucleoBond® Xtra Maxi shows higher transfection efficiency than competitor Q.

Data kindly provided by Prof. Dr. Guenter Schwarz, Institute of Biochemistry, University of Cologne, Germany

### Customer testimonial

"We compared transfection efficiencies of different plasmids purified with market leading kits based on anion-exchange technology. Plasmid DNA purified with NucleoBond® Xtra from MACHERY-NAGEL gave overall best results and high transfection efficiencies even if only small amounts of DNA were used for transfection."

Prof. Dr. Guenter Schwarz, Institute of Biochemistry, University of Cologne, Germany

# NucleoBond® Xtra Midi EF/Maxi EF

## endotoxin-free - even for highly sensitive cells

### Xtra efficient endotoxin removal - get highest transfection efficiencies

- ✓ DNA with less than 0.05 EU/µg suitable for transfection of highly sensitive cells
- ✓ efficient removal of endotoxins - just one additional washing step compared to standard procedure of NucleoBond® Xtra - highest convenience!

### Xtra fast procedure - reduce your time for plasmid preps up to 68%

- ✓ up to 68% time saving compared to other kits for isolation of endotoxin-free plasmid DNA
- ✓ no additional incubation steps required for endotoxin removal - minimal hands-on-time!
- ✓ NucleoBond® Xtra Plus EF kits with NucleoBond® Finalizers for speeding-up DNA precipitation - increase speed!

### Xtra high yields - double your plasmid yield

- ✓ up to 100% increased yields of endotoxin-free plasmid DNA
- ✓ optimized EF buffers - highest yields and most efficient endotoxin removal

### Xtra flexible - make your choice...Midi or Maxi, with or without Finalizer

- ✓ MACHEREY-NAGEL is the only company to offer **Midi** kits and **high-speed** kits for endotoxin-free plasmid purification based on anion-exchange chromatography

#### Transfection of primary rat hippocampal neurons with NucleoBond® Xtra EF purified plasmid DNA

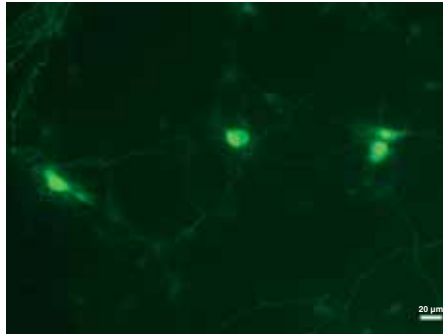
**Plasmid purification:** 9 kb high copy plasmid, bacterial strain: *E.coli* XL1-Blue, purification with NucleoBond® Xtra Midi EF according to the manufacturer's instruction

**Transfection experiment:** primary rat hippocampal neurons, *in vitro* cultivation (6 days), transfection with 1 µg plasmid DNA/well, transfection method: calcium phosphate, cells were observed by fluorescence microscopy 48 h post-transfection

**Results:** neuronal cells showing transient expression of Neuroligin (postsynaptic transmembrane protein) fused to GFP as reporter

#### Even highly sensitive primary neurons can be transfected with plasmid DNA purified with NucleoBond® Xtra EF

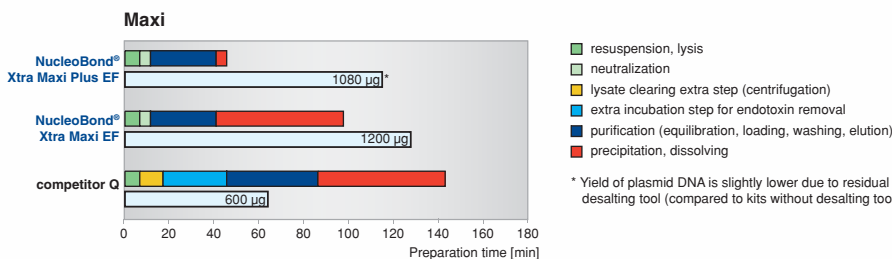
Data kindly provided by Dr. Nina Wittenmayer, Ruprecht-Karls-University Heidelberg, Institute for Anatomy and Cell Biology, Dept. of Medical Cell Biology, Heidelberg, Germany



#### Higher yield of endotoxin-free plasmid DNA in less time - comparison to competitor (anion-exchange based kit)

Plasmid DNA was isolated following each manufacturers' protocol using the maximum culture volume with high plasmid content. Yield of plasmid DNA (□) was determined after DNA precipitation. Endotoxin level was determined using the LAL test (Limulus Amebocyte Lysate Pyrochrome, Cape Cod/BioWhittaker) resulting in < 0.01 EU/µg for all preps.

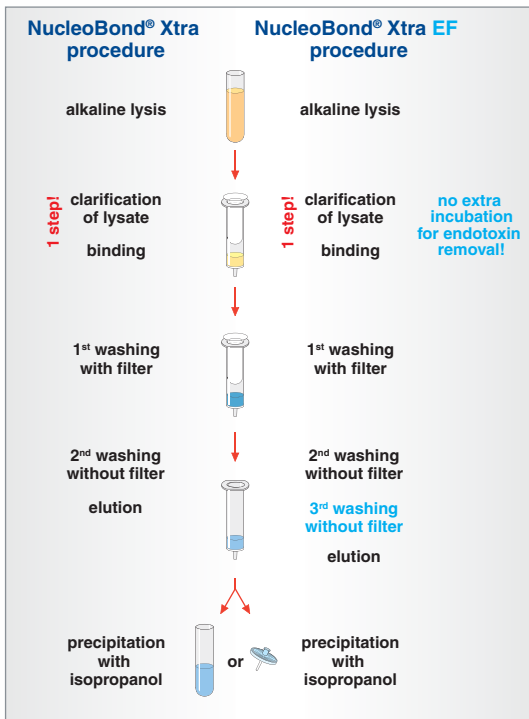
#### NucleoBond® Xtra: Up to 68% time saving and up to 100% higher yields of endotoxin-free plasmid DNA compared to competitor product Q



NucleoBond® Xtra Midi EF/Maxi EF

...start thinking about your Xtra free time!

...this is what you and your sensitive cell lines ever waited for



### Customer testimonial

"We have tested many of the market leaders in anion-exchange purification, and the MACHEREY - NAGEL NucleoBond® Xtra kits excel in ease of use, speed of preparation, yield and DNA quality."

Enrique Saez, PhD, The Genomics Institute of the Novartis Research Foundation, San Diego, CA, USA

Distributed by:

### Ordering information

Product	Preps	Cat. No.
<b>NucleoBond® Xtra Midi kits</b>		
NucleoBond® Xtra Midi	10/50/100	740410.10./50/.100
NucleoBond® Xtra Midi Plus (including NucleoBond® Finalizer)	10/50	740412.10./50
NucleoBond® Xtra Midi EF	10/50	740420.10./50
NucleoBond® Xtra Midi Plus EF (including NucleoBond® Finalizer)	10/50	740422.10./50
<b>NucleoBond® Xtra Maxi kits</b>		
NucleoBond® Xtra Maxi	10/50/100	740414.10./50/.100
NucleoBond® Xtra Maxi Plus (including NucleoBond® Finalizer Large)	10/50	740416.10./50
NucleoBond® Xtra Maxi EF	10/50	740424.10./50
NucleoBond® Xtra Maxi Plus EF (including NucleoBond® Finalizer Large)	10/50	740426.10./50
<b>NucleoBond® Xtra accessories</b>		
NucleoBond® Xtra Combi Rack		740415
<i>holds up to 6 NucleoBond® Xtra Midi and 4 NucleoBond® Xtra Maxi Columns</i>		
NucleoBond® Xtra Buffer Set I (including buffers RES, LYS, NEU, and RNase A) for isolation of low-copy plasmids, cosmids, BACs, PACs, and P1 constructs.		740417
NucleoBond® Xtra EF Buffer Set I (including buffers RES-EF, LYS-EF, NEU-EF, and RNase A) for isolation of low-copy plasmids, cosmids, BACs, PACs, and P1 constructs.		740427

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## MACHEREY-NAGEL

MACHEREY-NAGEL GmbH & Co. KG · Neumann-Neander-Str. 6-8 · 52355 Düren · Germany

Germany  
Tel.: +49 (0) 2421 969-270  
e-mail: tech-bio@mn-net.com

USA  
Tel.: +1 610-559-9848  
e-mail: sales-us@mn-net.com

France  
Tel.: +33 (0) 388 682268  
e-mail: sales-fr@mn-net.com

Switzerland  
Tel.: +41 (0) 62 388 55 00  
e-mail: sales-ch@mn-net.com



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