

QIAGEN® Plasmid *Plus* Kits

For the fastest and most convenient purification of transfection-grade plasmid DNA suitable for all applications

QIAGEN Plasmid *Plus* Kits provide a novel patent-pending method for extremely fast and easy large-scale plasmid preparation. The procedure can be performed in 20 (Midi and Maxi), 40 (Mega), or 50 minutes (Giga) using a vacuum and centrifuge.

Benefits of QIAGEN Plasmid *Plus* Kits:

- Ultrafast procedure for maximum convenience*
- Easy vacuum-based parallel processing of up to 24 samples†
- Highly concentrated DNA suitable for all applications
- Transfection-grade DNA with very low endotoxin levels

Ultrafast and easy procedure

QIAGEN Plasmid *Plus* Kits provide a convenient method for large-scale plasmid preparation. The design and unique binding chemistry of the QIAGEN Plasmid *Plus* spin columns allow a simple bind-wash-elute procedure based on a novel chemistry. The resulting highly concentrated DNA is ready for immediate use in subsequent applications. The procedure is extremely fast – 20 minutes for midi/maxi preps and 40–50 minutes for mega/giga preps.

Convenient parallel processing using a vacuum-based procedure

QIAfilter cartridges provided in QIAGEN Plasmid *Plus* Kits enable rapid lysate clearing. Loading of the cleared lysate onto the column can be performed in one step, saving time. A vacuum manifold (such as the QIAvac 24 Plus in combination with the QIAvac holder; see Figure 1, next page) is used to draw the cleared lysate and subsequent wash buffers through the QIAGEN Plasmid *Plus* column. After washing and drying of the membrane, highly concentrated DNA is eluted in low volumes of elution buffer by centrifugation.

* 20 minutes for Midi/Maxi and 40–50 minutes for Mega/Giga

† 12 for Mega/Giga

QIAGEN Plasmid *Plus* Procedure

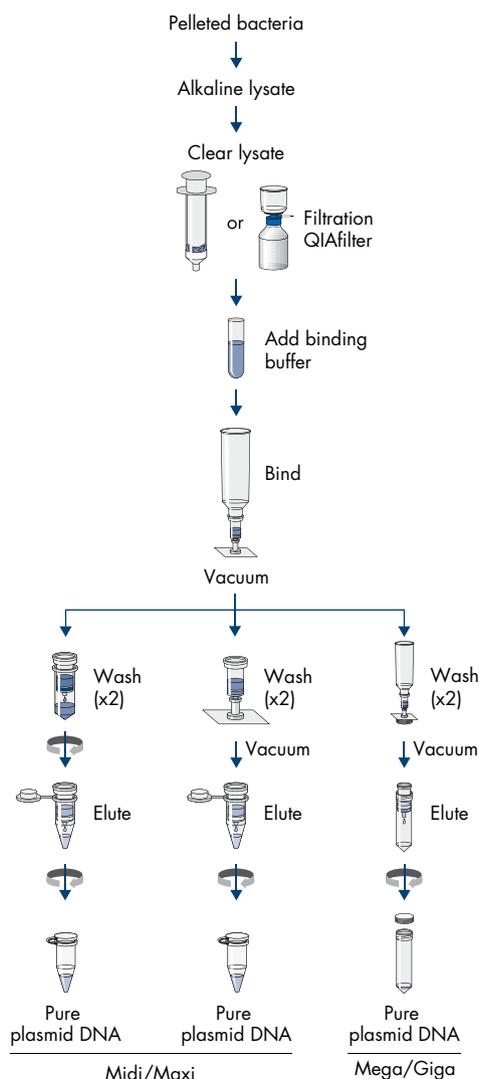




Figure 1. QIAGEN Plasmid Plus Mega and Giga columns on the QIAvac 24 Plus.

Consistent quality and performance

QIAGEN Plasmid *Plus* technology delivers the same performance and quality as anion-exchange technology. The unique binding chemistry of the QIAGEN Plasmid *Plus* spin columns ensures that highly pure plasmid DNA is obtained every time (Figure 2).

High yields

QIAGEN Plasmid *Plus* Kits deliver extremely high yields of pure plasmid DNA free from contaminants such as RNA or genomic DNA, making it suitable for a wide range of downstream applications. Optimized high-yield protocols and extra buffer volumes are provided with the kit, enabling yields from 250 µg (Midi) to 10 mg (Giga). As seen in Figure 3, QIAGEN Plasmid *Plus* Kits outperform kits from other suppliers and deliver consistently high yields.

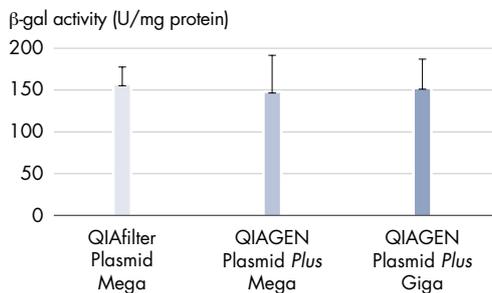


Figure 2. QIAGEN Plasmid Plus Mega and Giga Kits deliver the same performance as the QIAfilter Plasmid Mega Kit.

Plasmid pCMVβ DNA was prepared using the indicated preparation method. 1.0×10^4 Huh-7 cells per well were transfected using 200 ng plasmid DNA and 2 µl Effectene® Transfection Reagent. Four wells were transfected in parallel per plasmid preparation method. β-galactosidase activity and protein content were determined 48 hours after transfection.

Highly concentrated, ready-to-use plasmid DNA

The innovative binding technology and optimized protocol enable elution of DNA in very low buffer volumes, providing highly concentrated DNA, typically >1 µg/µl. No further alcohol precipitation or centrifugation is necessary. The eluted plasmid DNA can be used immediately, even for reactions where a low reaction volume is required.

Easy visualization of optimum cell lysis and neutralization

lyseBlue®, an optional color indicator that provides visual identification of optimum buffer mixing, is also included in the kits. This prevents common handling errors that lead to inefficient cell lysis and incomplete precipitation of SDS, genomic DNA, and cell debris. Through a simple color change, this unique buffer additive ensures that optimum cell lysis and neutralization is achieved — maximizing yields.

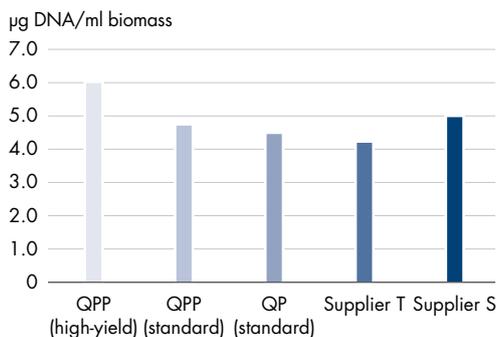


Figure 3. QIAGEN Plasmid Plus Kits (QPP) ensure high yields. Comparison of plasmid DNA yields using different methods — QIAGEN Plasmid *Plus* high-yield protocol, QIAGEN Plasmid *Plus* standard protocol, QIAGEN Plasmid Kit (QP), Supplier T, and Supplier S. Microgram DNA/ml biomass is indicated.

Transfection-grade plasmid DNA with very low endotoxin levels

Endotoxins induce nonspecific activation of immune responses in immune cells such as macrophages and B cells, which can lead to misinterpretation of transfection results. These responses include induced synthesis of proteins and lipids such as IL-1 and prostaglandin. Overall, endotoxins represent a noncontrollable variable in transfection experiment setup, influencing the outcome and reproducibility of results and making them difficult to compare and interpret. QIAGEN Plasmid *Plus* Kits utilize a proprietary endotoxin wash buffer that effectively reduces bacterial endotoxins to a level usually below 1 EU/ μ g* (Figures 4 and 5). This makes the plasmid DNA suitable for a multitude of applications, including transfection into sensitive cell lines as shown in Figures 2 and 6.

Ideal for all applications

QIAGEN Plasmid *Plus* Kits provide transfection-grade plasmid DNA, highly suited for all applications such as:

- Enzymatic modification
- Cloning
- In vitro transcription
- In vitro translation
- Sequencing
- Transfection into most cell lines (including sensitive cell lines such as Huh-7 (see Figures 2 and 6)).



Figure 7. QIAGEN Plasmid *Plus* Kits are available in midi, maxi, mega, and giga formats for increased flexibility.

* Endotoxin levels can vary depending on the host strain, culture media and cell density. If the cell density is very high, endotoxin levels may be slightly higher, ranging from 1–3 EU/ μ g.

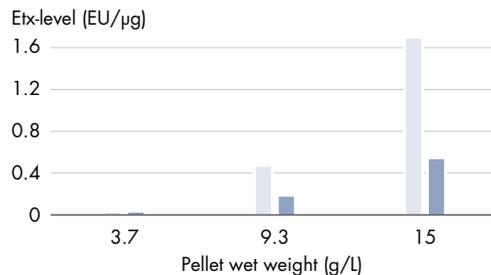


Figure 4. Endotoxin levels when using QIAGEN Plasmid *Plus* Kits. Purification per pellet-wet weight (g/L) for midi prep using Buffer ETR is shown. QIAGEN Plasmid *Plus* Technology generally results in low endotoxin levels. Buffer ETR technology further decreases these levels.

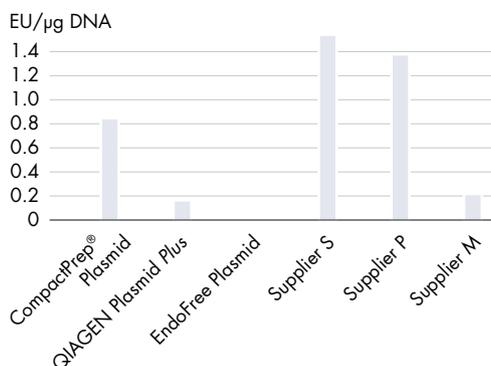


Figure 5. Endotoxin levels (EU/ μ g DNA) using different plasmid DNA isolation methods. QIAGEN Plasmid *Plus* Kits result in lower EU content levels than kits based on silica and anion-exchange technology from other suppliers. For EndoFree[®] Plasmid Kits, the EU content is below detection range.

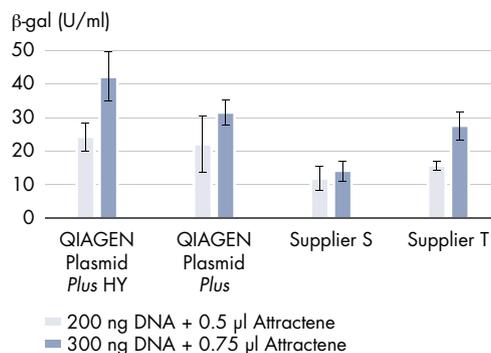


Figure 6. QIAGEN Plasmid *Plus* Kits show efficient transfection in sensitive cell lines. Plasmid pCMV β DNA was prepared using the indicated preparation method with standard and high-yield (HY) protocol for QIAGEN Plasmid *Plus* Kits. Huh-7 cells were transfected using 200 ng plasmid DNA and 0.5 μ l Attractene Transfection Reagent or 300 ng plasmid DNA and 0.75 μ l Attractene Transfection Reagent.

Ordering Information

Product	Contents	Cat. no.
QIAGEN Plasmid <i>Plus</i> Midi Kit (25)*	25 QIAGEN Plasmid <i>Plus</i> Midi Columns, Extender Tubes, Reagents, Buffers, 25 QIAfilter Midi Cartridges	12943
QIAGEN Plasmid <i>Plus</i> Midi Kit (100)*	100 QIAGEN Plasmid <i>Plus</i> Midi Columns, Extender Tubes, Reagents, Buffers, 100 QIAfilter Midi Cartridges	12945
QIAGEN Plasmid <i>Plus</i> Maxi Kit (25)*	25 QIAGEN Plasmid <i>Plus</i> Maxi Columns, Extender Tubes, Reagents, Buffers, 25 QIAfilter Maxi Cartridges	12963
QIAGEN Plasmid <i>Plus</i> Maxi Kit (100)*	100 QIAGEN Plasmid <i>Plus</i> Maxi Columns, Extender Tubes, Reagents, Buffers, 100 QIAfilter Maxi Cartridges	12965
QIAGEN Plasmid <i>Plus</i> Mega Kit (5)†	5 QIAGEN Plasmid <i>Plus</i> Mega Columns, Extender Tubes, Reagents, Buffers, 5 QIAfilter Mega-Giga Cartridges	12981
QIAGEN Plasmid <i>Plus</i> Giga Kit (5)†	5 QIAGEN Plasmid <i>Plus</i> Giga Columns, Extender Tubes, Reagents, Buffers, 5 QIAfilter Mega-Giga Cartridges	12991
QIAvac 24 Plus	Vacuum manifold for processing 1–24 spin columns: includes QIAvac 24 Plus Vacuum Manifold, Luer Plugs, Quick Couplings	19413
QIAvac Connecting System	System to connect vacuum manifold with vacuum pump: includes Tray, Waste Bottles, Tubing, Couplings, Valve, Gauge, 24 VacValves	19419
QIAvac Holder	Device to support QIAGEN Plasmid <i>Plus</i> Mega and Giga Columns	19418

* QIAGEN Plasmid *Plus* Kits require use of a vacuum device for operation (e.g., QIAvac 24 Plus, cat. no. 19413).

† We recommend using the QIAvac Connecting System for parallel processing.

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at www.qiagen.com or can be requested from QIAGEN Technical Services or your local distributor.

Find out more about QIAGEN Plasmid *Plus* Kits at www.qiagen.com.

Trademarks: QIAGEN®, Sample to Insight®, CompactPrep®, Effectene®, EndoFree®, GelPilot®, LyseBlue® (QIAGEN Group).
© 2015 QIAGEN, all rights reserved. PROM-1109-002

Ordering www.qiagen.com/contact | Technical Support support.qiagen.com | Website www.qiagen.com