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Plasmid DNA purification

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Plasmid DNA purification: kit specifications

Advanced transfection grade	EndoFree Kits*	Ultrapure 100 column	Plasmid Prep Service
Yield	500 µg – 10 mg (maxi to giga)	Up to 100 mg	Milligram to gram scales available
Culture volume	100 ml – 5 liters	20 liters	n.a.
Features	Gravity-flow anion-exchange column, plus endotoxin removal	Anion-exchange FPLC® column, plus endotoxin removal	Manufacturing service for research or preclinical applications
Processing	Manual	FPLC or peristaltic pump	n.a.
Applications	Transfection of primary/sensitive/suspension cells microinjection, vector based gene silencing	Research on gene therapy and genetic vaccination, and other sensitive applications	Research on gene therapy and genetic vaccination, and other sensitive applications
Transfection grade	QIAwell 96 Ultra*	Plasmid Mini Kit	HiSpeed Plasmid*
Yield	3–8 µg (96-well mini)	9–20 µg (gravity-flow mini column)	QIAGEN Plasmid/QIAfilter/Large Construct
Culture volume	1.5 ml in 96-well growth blocks	3–10 ml	100 µg – 10 mg (midi to giga)
Features	Anion-exchange membrane; vacuum manifold (QIAvac 96)	Gravity-flow anion-exchange column; EndoFree option	25 ml – 5 liters
Processing	BioRobot® 3000 and 8000, or manual	Manual	Gravity-flow anion-exchange column; EndoFree option; no centrifugation (<1 hour)
Applications	Transfection, vector based gene silencing, in vitro transcription/translation	Transfection, vector based gene silencing, in vitro transcription/translation	Manual
Molecular biology grade	QIAprep 96 Turbo*	QIAprep Spin†	CompactPrep
Yield	3–8 µg† (96-well mini)	Up to 20 µg (spin mini column)	200 µg – 750 µg (midi and maxi)
Culture volume	1.3 ml in 96-well growth blocks, 2.5 ml in 48-well growth blocks (up to 5 ml possible)	Up to 5 ml (10 ml for low-copy plasmids)	25 ml – 100 ml
Features	Silica-gel membrane; vacuum manifold (QIAvac 96)	Silica-gel membrane; desk top centrifuge or vacuum manifold (QIAvac 24 Plus/QIAvac 65)	Non-chaotropic silica membrane; Vacuum manifold (QIAvac 24 Plus)
Processing	BioRobot Universal and 8000, or manual	Manual or QIAcube	Manual
Applications	Transfection screening of robust cells, in vitro transcription/translation, sequencing	Transfection of robust cells, in vitro transcription/translation, sequencing	Transfection of robust cells, in vitro transcription/translation, sequencing
Sequencing grade	DirectPrep 96*	R.E.A.L. Prep 96	MagAttract 96*
Yield	Up to 4 µg	Up to 30 µg (1 µg BAC)	Up to 15 µg (spin mini column)
Culture volume	Up to 4 µg	Up to 30 µg (1 µg BAC)	Up to 15 µg (spin mini column)
Features	1.3 ml in 96-well growth blocks	1.3 ml in 96-well growth blocks, 2.5 ml in 48-well growth blocks (up to 5 ml possible)	1.5–3 ml
Processing	Vacuum manifold (QIAvac Multiwell)	Rapid extraction alkaline lysis; vacuum manifold (QIAvac 96)	One-step lysis on non-chaotropic silica membrane
Applications	BioRobot 3000 and 8000, or manual	Sequencing, BAC isolation	Manual
	Sequencing	Sequencing	Sequencing, cloning

n.a.: Not applicable.

* Suitable for up to 50 kb sized constructs.

† Up to 20 µg using 5 ml culture.

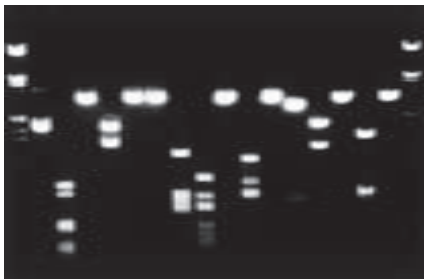
Red text indicates important kit features.

PlasmidAmp
Variable (depending on reaction volume)
Single bacterial colony
Amplification-based plasmid preparation for ColE1 plasmids; no overnight culture
Manual/automated
Sequencing, cDNA library screening, restriction analysis

Automatable on QIAcube

Complete Digestion with Various Restriction Enzymes

M Undigested
AluI BamHI
BglII EcoRV
HindIII
HpaII
KpnI MboII
PstI PvuII
RseI SmaI
TaqI XbaI M



Restriction analysis of pBluescript® DNA purified with the QIAprep Spin Miniprep Kit. Digestion with the indicated enzymes (1–5 units) was carried out on 1 µg plasmid DNA. **M:** lambda-HindIII.

QIAprep® Spin Miniprep Kit

For purification of up to 20 µg Molecular Biology Grade plasmid DNA

- High yields for high- and low-copy vectors
- Flexible handling with vacuum and centrifugation protocols
- Ready-to-use plasmid DNA in minutes
- No resins, slurries, or phenol extractions
- LyseBlue reagent for optimum lysis and maximum DNA yield

Product description

The QIAprep Spin Miniprep Kit provides silica-based spin columns suitable for processing by vacuum or centrifugation, yielding Molecular Biology Grade plasmid DNA (see page 72). The procedure can be fully automated on the QIAcube (page 363).

Applications

The QIAprep Spin Miniprep Kit provides high-purity DNA suitable for use in most applications, including:

- High-quality automated sequencing
- Restriction digestion (see figure)
- Ligation and transformation
- In vitro transcription/translation
- Transfection of robust cells

Product	Contents	Cat. no.
QIAprep Spin Miniprep Kit (50)*	50 QIAprep Spin Columns, Reagents, Buffers, Collection Tubes (2 ml)	27104
QIAprep Spin Miniprep Kit (250)*	250 QIAprep Spin Columns, Reagents, Buffers, Collection Tubes (2 ml)	27106
QIAprep 8 Miniprep Kit (50)†	50 QIAprep 8 Strips, Reagents, Buffers, Collection Microtubes (1.2 ml), Caps	27144

* QIAprep Mini spin columns can be used either in microcentrifuges or on vacuum manifolds (QIAvac 24 Plus, or QIAvac 6S with Luer Adapters, page 395).

† Requires use of QIAvac 6S (page 394).

For further information: www.qiagen.com/PG/plasmidssmallscale

Automatable

QIAprep Turbo Miniprep and BioRobot® Kits

For purification of Molecular Biology Grade plasmid DNA in 8-well strips or 96-well plate format

- Vacuum and automated processing options
- Reproducible high yields of Molecular Biology Grade plasmid DNA (see figure)
- Fast and easy handling, due to TurboFilter® technology

Product description

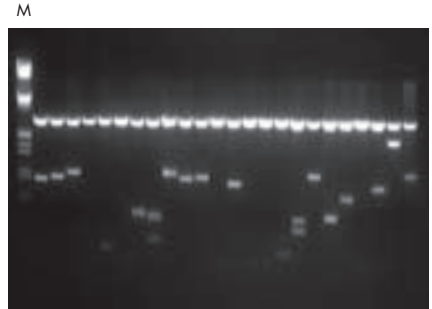
QIAprep Kits provide silica-based 8-well strips or 96-well purification plates with TurboFilter modules for vacuum or automated processing. The purified DNA is suitable for Molecular Biology Grade applications (see page 72).

Applications

QIAprep Turbo and BioRobot Miniprep Kits provide high-purity DNA suitable for use in most applications, including:

- High-quality automated sequencing
- Restriction digestion (see figure)
- Ligation and transformation
- In vitro transcription/translation
- Transfection of robust cells

Reproducible High Yields for High-Throughput Screening



Restriction analysis of a set of shotgun clones from a *Saccharomyces cerevisiae* library cloned in a pTZ18R derivative. Plasmid DNA was isolated with the QIAprep 8 Turbo Miniprep Kit and digested with *Bam*HI and *Hind*III. **M**: 1 µg lambda-*Eco*RI-*Hind*III.



QIAprep 96 plate and TurboFilter 96 plate.

Product	Contents	Cat. no.
QIAprep 96 Turbo Miniprep Kit (4)* [†]	For 4 x 96 high-purity plasmid minipreps, 4 each: TurboFilter 96 and QIAprep 96 Plates; Flat-Bottom Blocks and Lids, Reagents, Buffers, Collection Microtubes (1.2 ml), Caps	27191
QIAprep 96 Turbo Miniprep Kit (24)* [†]	For 24 x 96 high-purity plasmid minipreps, 24 each: TurboFilter 96 and QIAprep 96 Plates; Flat-Bottom Blocks and Lids, Reagents, Buffers, Collection Microtubes (1.2 ml), Caps	27193
QIAprep 96 Turbo BioRobot Kit (4) [‡]	For 4 x 96 high-purity plasmid minipreps, 4 each: TurboFilter 96 and QIAprep 96 Plates; Flat-Bottom Blocks and Lids, Reagents, Buffers, Collection Microtubes (1.2 ml) and Caps, 96-Well Microplates RB and Lids, Tape Pads	962141
QIAprep 8 Turbo Miniprep Kit (10) [§]	For 10 x 8 high-purity plasmid minipreps, 10 each: TurboFilter 8 and QIAprep 8 Strips; Reagents, Buffers, Collection Microtubes (1.2 ml), Caps	27152
QIAprep 8 Turbo Miniprep Kit (50) [§]	For 50 x 8 high-purity plasmid minipreps, 50 each: TurboFilter 8 and QIAprep 8 Strips; Reagents, Buffers, Collection Microtubes (1.2 ml), Caps	27154
QIAprep 8 Turbo BioRobot Kit (48) [‡]	For 48 x 8 high-purity plasmid minipreps, 48 each: TurboFilter 8 and QIAprep 8 Strips; Reagents, Buffers, Collection Microtubes (1.2 ml) and Caps, 96-Well Microplates RB and Lids	962134

* Requires use of QIAvac 96 (page 394).

[†] Bulk and larger kit sizes available, please inquire.

[‡] For use with the BioRobot Universal System (page 366), BioRobot 8000 (page 371), or BioRobot 3000 (no longer available).

[§] Requires use of QIAvac 6S (page 394).

For further information: www.qiagen.com/PG/plasmidssmallscale

New QuickLyse Miniprep Kit

For fast purification of up to 15 µg Sequencing Grade plasmid DNA

- Rapid one-step lysis procedure
- Reduced protocol steps and hands-on time
- Up to 15 µg DNA from 1.5–3 ml culture volumes
- Ready-to-use plasmid DNA in just 9 minutes

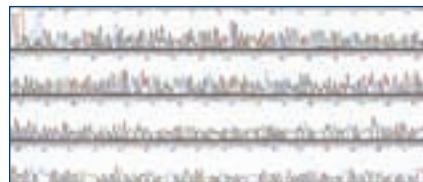
Product description

The QuickLyse Miniprep Kit is a rapid, spin column-based method for isolating Sequencing Grade plasmid DNA (see page 72). Bacterial cell resuspension, lysis, and DNA binding are achieved in a single buffer enabling fast DNA purification with minimal hands-on time.

Applications

The QuickLyse Miniprep Kit provides Sequencing Grade DNA suitable for use in most applications, including:

- Automated sequencing
- Restriction digestion
- Cloning
- PCR

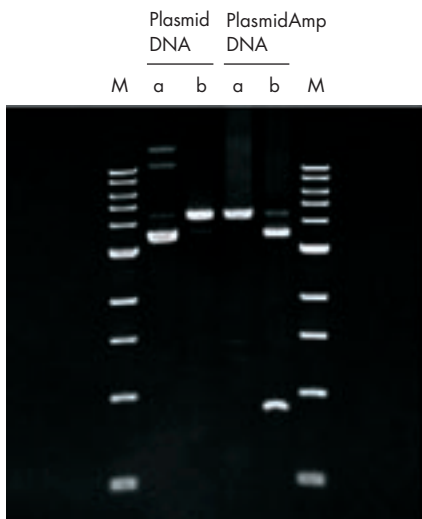


pSVβ-galactosidase plasmid DNA purified from TOP10 cells using the QuickLyse Miniprep Kit was sequenced using BigDye terminators and fluorescent capillary sequencing on an ABI PRISM 3700 DNA Analyzer.

Product	Contents	Cat. no.
QuickLyse Miniprep Kit (100)	100 QuickLyse Spin Columns, Reagents, Buffers, Lysis and Collection Tubes (2ml)	27405
QuickLyse Miniprep Kit (250)	250 QuickLyse Spin Columns, Reagents, Buffers, Lysis and Collection Tubes (2ml)	27406

For further information: www.qiagen.com/PG/plasmidssmallscale

Easy Size Determination and Restriction Mapping



Plasmid DNA (pUC19) with a 1.68 kb insert was purified using a plasmid purification kit (**Plasmid DNA**). In addition, plasmid DNA from a single bacterial colony was amplified using the QIAGEN PlasmidAmp Kit (**PlasmidAmp DNA**). Uncut DNA (**a**) was run alongside *Hind*III digested DNA (**b**) on an agarose gel.

New QIAGEN PlasmidAmp Kit

For fast full-length plasmid amplification

- Rapid, same-day results without overnight bacterial culture
- Direct amplification from a single bacterial colony
- Amplification of linearized plasmids up to 9 kb
- Suitable for restriction analysis, sequencing, and in vitro transcription

Product description

The QIAGEN PlasmidAmp Kit uses an in vitro amplification method to produce high-quality Sequencing Grade plasmid DNA from bacterial colonies. The kit is designed for ColE1-derived plasmids (pUC19, pBR322) up to approximately 9 kb. Sample preparation requires no liquid culturing and minimal hands-on time (5–30 minutes, depending on the number of samples). A 25 µl reaction can produce up to 5 µg of DNA from plasmids ≤6 kb in size and up to 1.5 µg of DNA from plasmids 6–9 kb in size. Reaction volumes can be easily scaled up if higher yields of DNA are required. The unique enzyme blend ensures high-fidelity amplification.

Applications

The QIAGEN PlasmidAmp Kit produces complete, linear, double-stranded plasmid copies with negligible levels of RNA and bacterial endotoxins. The streamlined procedure makes it an ideal tool for cDNA library screening. The amplified DNA is suitable for:

- Automated sequencing
- Restriction digestion
- Ligation and transformation

Product	Contents	Cat. no.
QIAGEN PlasmidAmp Kit (100)	For 100 x 25 µl reactions: Primers, Buffers, Control DNA	27415
QIAGEN PlasmidAmp Kit (500)	For 500 x 25 µl reactions: Primers, Buffers, Control DNA	27417

For further information: www.qiagen.com/PG/plasmidssmallscale

Automatable

DirectPrep® 96 Kits

For high-throughput purification of Sequencing Grade DNA

- Cost-effective purification, suitable for high-throughput sequencing and screening projects
- Simple one-plate procedure
- Automated and manual procedures available
- 96 samples in just 35 minutes (manual procedure)
- SBS* plate standard for easy automation

Product description

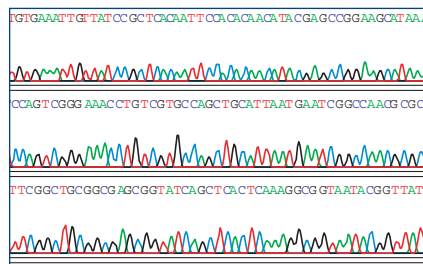
DirectPrep 96 Kits provide 96-well purification plates suitable for vacuum or automated processing, yielding Sequencing Grade plasmid DNA (see page 72). Novel lysis chemistry eliminates the need for a lysate clearing step.

Applications

DirectPrep 96 Kits provide ready-to-use plasmid DNA of a yield and quality especially suited for the following applications:

- High-throughput automated sequencing
- Restriction digestion
- PCR

High-Quality DNA for Automated Sequencing



Typical fluorescent capillary sequencing result obtained with plasmid DNA purified using the DirectPrep 96 BioRobot Kit and the BioRobot 8000. Plasmid pUC19 was sequenced using BigDye™ terminator v. 3.1 chemistry in a cycle sequencing reaction on an ABI PRISM® 3700 DNA Analyzer. The sequencing reaction was purified using the DyeEx® 96 Kit (page 109).



DirectPrep 96 plate.

* SBS: Society for Biomolecular Screening (www.sbsonline.org)

Product	Contents	Cat. no.
DirectPrep 96 Miniprep Kit (4) [†]	4 DirectPrep 96 Plates, Reagents, Buffers, Flat-Bottom Blocks and Lids, AirPore Tape Sheets, Tape Pads, Elution Microtubes RS, Caps	27361
DirectPrep 96 BioRobot Kit (4) [†]	4 DirectPrep 96 Plates, Reagents, Buffers, Flat-Bottom Blocks and Lids, 96-Well Microplates FB, AirPore Tape Sheets, Tape Pads	962341

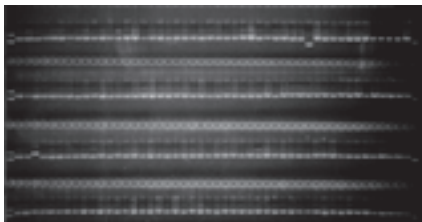
[†] Requires use of QIAvac Multiwell (page 394). Bulk and larger kit sizes available; please inquire.

[†] For use with BioRobot 3000 (no longer available) or 8000 workstations (page 371). Bulk and larger kit sizes available; please inquire.

For further information: www.qiagen.com/PG/plasmidssmallscale

Automatable

Reproducible High Yields



Agarose gel analysis of shotgun clones from an *S. pombe* shotgun library purified using the R.E.A.L. Prep 96 procedure. Approximately 200 ng DNA was loaded per lane onto a 1% TAE agarose gel. Outer lanes: markers.

R.E.A.L.® Prep 96 Kits

For 1–4 x 96 rapid extraction alkaline lysis plasmid, cosmid, BAC, PAC, or P1 minipreps yielding Sequencing Grade DNA

- Optimized protocols for plasmids, cosmids, BACs, PACs, and P1s
- Highest possible DNA yields

Product description

R.E.A.L. Prep 96 Kits provide 96-well purification plates suitable for processing on the QIAvac 96 or BioRobot 3000 and BioRobot 8000 workstations, yielding Sequencing Grade plasmid DNA (see page 72).

Applications

R.E.A.L. Prep 96 Kits provide ready-to-use plasmid DNA of a yield and quality especially suited for the following applications:

- High-throughput automated sequencing
- BAC sequencing
- Restriction digestion
- PCR

Product	Contents	Cat. no.
R.E.A.L. Prep 96 Plasmid Kit (4) ^{*†‡}	4 QIAfilter 96 Plates, Square-Well Blocks, Tape Pads, Reagents, Buffers	26171
R.E.A.L. Prep 96 Plasmid Kit (24) ^{*†‡}	24 QIAfilter 96 Plates, Square-Well Blocks, Tape Pads, Reagents, Buffers	26173
R.E.A.L. Prep 96 BioRobot Kit (4) [§]	4 QIAfilter 96 Plates, Flat-Bottom Blocks and Lids, Square-Well Blocks, Reagents, Buffers, Tape Pads	961141

* Requires use of QIAvac 96 (page 394).

† BAC purification using the R.E.A.L. Prep 96 procedure requires use of 48-well blocks (page 398) to provide optimal cultivation conditions.

‡ Bulk and larger kit sizes available, please inquire.

§ For use with the BioRobot 3000 workstation (no longer available). Larger kit sizes, modular kits, and special kit formats for use with the BioRobot 8000 workstation (page 371) are also available; please inquire.

For further information: www.qiagen.com/PG/plasmidssmallscale

Automated

MagAttract® 96 Miniprep Core Kit

For 24 x 96 automated Sequencing Grade minipreps

- Walkaway automation on BioRobot 8000 workstations using MagAttract magnetic bead technology
- Highly economical

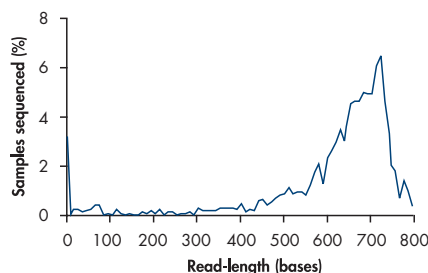
Product description

MagAttract 96 Miniprep Core Kit utilizes magnetic silica-bead technology in a 96-well format for automated processing using BioRobot 8000 workstations. The purified DNA is suitable for Sequencing Grade applications (see page 72).

Applications

The MagAttract 96 Miniprep procedure was developed specifically for high-quality, high-throughput automated sequencing (see figure).

Long Read-Lengths Using the MagAttract 96 Miniprep System



Phred 20 analysis of 1722 shotgun-clone sequences from plasmid DNA isolated for a bacterial genome project. Clones were prepared using the MagAttract 96 Miniprep Kit, sequenced using BigDye Terminator chemistry, and analyzed using an ABI PRISM 3700 DNA Analyzer with POP-5 gel matrix. The analysis shows the percentage of sequencing reads, which were calculated using sequential windows of 10 bases.

Product	Contents	Cat. no.
MagAttract 96 Miniprep Core Kit (24)*	MagAttract Suspension (Miniprep) and Buffers for 24 x 96 minipreps	120030

* Requires use of the following equipment which is not supplied with the kit: a robotic workstation (e.g., BioRobot 8000, page 371), 96-well magnets type B and type C, a Reagent Holder (5-trough, 80 ml), a MagAttract suspension reservoir (e.g., Disposable Troughs), 96-well flat-bottom blocks for optimal cell cultivation, 96 round-well blocks, flat-bottom 96-well microplates (e.g., 96-Well Microplates FB), round-bottom 96-well microplates (e.g., 96-Well Microplates RB), and porous tape sheets for covering 96-well flat-bottom blocks during cell cultivation. These accessories can be purchased separately from QIAGEN; please inquire. Bulk and larger kit sizes available, please inquire.

For further information: www.qiagen.com/PG/plasmidssmallscale

Automatable



QIAfilter 96,
QIAwell 96, and
QIAprep 96 plates.

QIAwell® Ultra Plasmid and BioRobot Kits

For purification of Transfection Grade plasmid DNA in 8-well strip or 96-well plate format

- Ultrapure DNA for enhanced performance in sensitive applications
- Reproducible DNA quality for consistent results
- DNA purity equivalent to large-scale anion-exchange preps
- Up to 20 µg yield from 5 ml culture volume

Product description

QIAwell Ultra Kits provide anion-exchange-based 8-well strips or 96-well plates suitable for processing on the QIAvac 96 or BioRobot workstations, yielding Transfection Grade plasmid DNA (see page 72).

Applications:

Ultrapure, Transfection Grade DNA purified using QIAwell 96 Ultra Plasmid Kits yields excellent results in all applications, including:

- Transfection
- In vitro transcription
- Cloning and high-quality sequencing

Product	Contents	Cat. no.
QIAwell 96 Ultra Plasmid Kit (4)*†	4 each: QIAfilter 96, QIAwell 96, and QIAprep 96 Plates; Reagents, Buffers, Collection Microtubes (1.2 ml), Caps	16191
QIAwell 96 Ultra BioRobot Kit (4)†‡	4 each: QIAfilter 96, QIAwell 96, and QIAprep 96 Plates; Flat-Bottom Blocks and Lids, Reagents, Buffers, Collection Microtubes (1.2 ml) and Caps, 96-Well Microplates RB and Lids, Tape Pads	960141
QIAwell 8 Ultra Plasmid Kit (10)§	10 each: QIAfilter 8, QIAwell 8, and QIAprep 8 Strips; Reagents, Buffers, Collection Microtubes (1.2 ml), Caps	16152

* Requires use of QIAvac 96 (page 394). † Larger kit sizes, and special kit formats for use with the BioRobot 8000 workstation (page 371), are also available; please inquire. ‡ For use on BioRobot 9600 or 3000 workstations (no longer available).

§ Requires use of QIAvac 6S (page 394).

For further information: www.qiagen.com/PG/plasmidssmallscale

HiSpeed® Plasmid Kits

For ultrafast purification of up to 750 µg Transfection Grade plasmid or cosmid DNA

- Less than 45 minutes (Midi) or 60 minutes (Maxi) from harvested culture to ultrapure DNA
- Lysate clearing and isopropanol precipitation without centrifugation
- No risk of DNA pellet loss during precipitation
- Up to 200 µg (Midi) or 750 µg (Maxi) yield of high-copy plasmid DNA
- LyseBlue reagent for optimum lysis and maximum DNA yield

Product description

HiSpeed Plasmid Kits provide ultrafast, large-scale, anion-exchange-based plasmid DNA preparation without centrifugation. The purified DNA is equivalent to that obtained by 2 x CsCl gradient centrifugation and is suitable for Transfection Grade applications (see page 72).

Applications

Ultrapure, Transfection Grade DNA purified using HiSpeed Plasmid Kits yields excellent results in all applications, including:

- Transfection
- In vitro transcription
- Cloning
- High-quality sequencing



QIAprecipitator in use.

Product	Contents	Cat. no.
HiSpeed Plasmid Midi Kit (25)	25 HiSpeed Midi Tips, 25 QIAfilter Midi Cartridges, 25 QIAprecipitator Midi Modules plus Syringes, Reagents, Buffers	12643
HiSpeed Plasmid Maxi Kit (10)	10 HiSpeed Maxi Tips, 10 QIAfilter Maxi Cartridges, 10 QIAprecipitator Maxi Modules plus Syringes, Reagents, Buffers	12662
HiSpeed Plasmid Maxi Kit (25)	25 HiSpeed Maxi Tips, 25 QIAfilter Maxi Cartridges, 25 QIAprecipitator Maxi Modules plus Syringes, Reagents, Buffers	12663

For further information: www.qiagen.com/PG/plasmidlargescale



The syringe-format QIAfilter Midi Cartridge in use.

QIAfilter Plasmid Kits

For fast purification of up to 10 mg Transfection Grade plasmid or cosmid DNA

- Cleared lysate without centrifugation
- Reduced plasmid purification time
- Up to 100 µg (Midi), 500 µg (Maxi), 2.5 mg (Mega), or 10 mg (Giga) yield of high-copy plasmid DNA
- LyseBlue reagent for optimum lysis and maximum DNA yield

Product description

QIAfilter Plasmid Kits provide anion-exchange-based plasmid DNA purification with bacterial lysate clearing by filtration. The purified DNA is equivalent to that obtained by 2 x CsCl gradient centrifugation and is suitable for Transfection Grade applications (see page 72).

Applications

Ultrapure, Transfection Grade DNA purified using QIAfilter Plasmid Kits yields excellent results in all applications, including:

- Transfection
- In vitro transcription
- Cloning

Product	Contents	Cat. no.
QIAfilter Plasmid Midi Kit (25)	25 QIAGEN-tip 100, Reagents, Buffers, 25 QIAfilter Midi Cartridges	12243
QIAfilter Plasmid Midi Kit (100)	100 QIAGEN-tip 100, Reagents, Buffers, 100 QIAfilter Midi Cartridges	12245
QIAfilter Plasmid Maxi Kit (10)	10 QIAGEN-tip 500, Reagents, Buffers, 10 QIAfilter Maxi Cartridges	12262
QIAfilter Plasmid Maxi Kit (25)	25 QIAGEN-tip 500, Reagents, Buffers, 25 QIAfilter Maxi Cartridges	12263
QIAfilter Plasmid Mega Kit (5)	5 QIAGEN-tip 2500, Reagents, Buffers, 5 QIAfilter Mega-Giga Cartridges	12281
QIAfilter Plasmid Giga Kit (5)*	5 QIAGEN-tip 10000, Reagents, Buffers, 5 QIAfilter Mega-Giga Cartridges	12291

* For purification of low-copy plasmids and cosmids, QIAfilter Plasmid Mega kits are a better choice than QIAfilter Plasmid Giga Kits, due to the large culture volumes required and the limited capacity of the QIAfilter Mega-Giga Cartridge.

For further information: www.qiagen.com/PG/plasmidlargescale

QIAGEN® Plasmid Kits

For purification of up to 10 mg Transfection Grade plasmid or cosmid DNA

- Purity equivalent to that obtained by 2 x CsCl gradient centrifugation
- Up to 20 µg (Mini), 100 µg (Midi), 500 µg (Maxi), 2.5 mg (Mega), or 10 mg (Giga) yield of high-copy plasmid DNA
- Cost-effective preparations
- LyseBlue reagent for optimum lysis and maximum DNA yield



QIAGEN Plasmid Kit anion-exchange tips.

Product description

QIAGEN Plasmid Kits provide gravity-flow, anion-exchange tips for purification of Transfection Grade plasmid DNA (see page 72). Lysate clearing and isopropanol precipitation is achieved by centrifugation.

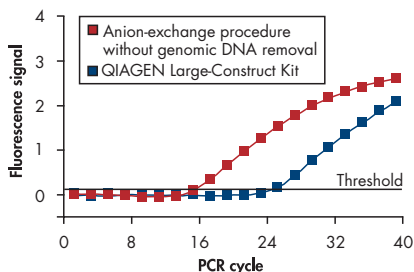
Applications

Ultrapure, Transfection Grade DNA purified using QIAGEN Plasmid Kits yields excellent results in all applications, including transfection, in vitro transcription, cloning, high-quality sequencing.

Product	Contents	Cat. no.
QIAGEN Plasmid Mini Kit (25)	25 QIAGEN-tip 20, Reagents, Buffers	12123
QIAGEN Plasmid Mini Kit (100)	100 QIAGEN-tip 20, Reagents, Buffers	12125
QIAGEN Plasmid Midi Kit (25)	25 QIAGEN-tip 100, Reagents, Buffers	12143
QIAGEN Plasmid Midi Kit (100)	100 QIAGEN-tip 100, Reagents, Buffers	12145
QIAGEN Plasmid Maxi Kit (10)	10 QIAGEN-tip 500, Reagents, Buffers	12162
QIAGEN Plasmid Maxi Kit (25)	25 QIAGEN-tip 500, Reagents, Buffers	12163
QIAGEN Plasmid Maxi Kit (100)	100 QIAGEN-tip 500, Reagents, Buffers	12165
QIAGEN Plasmid Mega Kit (5)	5 QIAGEN-tip 2500, Reagents, Buffers	12181
QIAGEN Plasmid Mega Kit (25)	25 QIAGEN-tip 2500, Reagents, Buffers	12183
QIAGEN Plasmid Giga Kit (5)	5 QIAGEN-tip 10000, Reagents, Buffers	12191

For further information: www.qiagen.com/PG/plasmidlargescale

Efficient Removal of Genomic DNA



ABI PRISM 7000 real-time PCR analysis of 1 µg samples of a 105 kb BAC DNA construct isolated using either the QIAGEN Large-Construct Kit or a standard anion-exchange procedure. The lower level of contaminating genomic DNA with the QIAGEN Large-Construct Kit is indicated by the greater number of amplification cycles required for its detection.

QIAGEN Large-Construct Kit

For purification of up to 50 µg BAC, PAC, and P1 DNA or up to 200 µg cosmid DNA, free of genomic DNA

- Efficient removal of genomic DNA contamination (see figure)
- Ultrapure, Transfection Grade large-construct DNA
- Fast and simple procedure

Product description

The QIAGEN Large-Construct Kit provides gravity-flow, anion-exchange columns for purification of large-molecular-weight DNA. A unique integrated ATP-dependent exonuclease digestion step ensures the selective removal of contaminating genomic DNA. The purified DNA is equivalent to that obtained by 2 x CsCl gradient centrifugation and is suitable for Transfection Grade applications (see page 72).

Applications

The absence of genomic DNA contamination means that DNA quantitation is accurate and reliable, enabling sensitive experiments to be carried out under defined and reproducible conditions. The ultrapure, large-construct DNA is suitable for any application, including:

- Subcloning and preparation of shotgun libraries
- Direct sequencing of large-construct DNA
- Transfection

Product	Contents	Cat. no.
QIAGEN Large-Construct Kit (10)	10 QIAGEN-tip 500, Reagents, Buffers, ATP-Dependent Exonuclease*	12462

* ATP solution required for the buffer is not provided.

For further information: www.qiagen.com/PG/plasmidlargescale

CompactPrep Plasmid Kits

For ultrafast purification of up to 750 µg Molecular Biology Grade plasmid or cosmid DNA

- Small and compact format for easy handling
- Flexible lysate clearing using QIAfilter Cartridges or centrifugation*
- DNA elution using a microcentrifuge
- Up to 200 µg (Midi) or 750 µg (Maxi) yield of Molecular Biology Grade DNA for standard applications

Product description

CompactPrep Plasmid Kits provide ultrafast, large-scale, non-chaotropic silica-based plasmid DNA preparation. QIAfilter columns provided with CompactPrep Plasmid Kits enable lysate clearing without centrifugation.* DNA binding and washing using a microspin column on a vacuum manifold (e.g., QIAvac 24 Plus) and DNA elution using a microcentrifuge enables the whole plasmid purification process to take place at the bench.

Applications

CompactPrep Plasmid Kits provide high-purity DNA suitable for use in most applications, including:

- High-quality automated sequencing
- Restriction digestion
- Ligation and transformation
- In vitro transcription/translation
- Transfection of robust cells

For applications requiring higher quality DNA, our anion-exchange based products may be more suitable. Use our kit selection guide on page 72 to choose the optimum kit for your application.

* CompactPrep Core Kits do not contain QIAfilter modules and require centrifugation for lysate clearing.

Fast and Easy Handling



CompactPrep Midi/Maxi column in operation on a vacuum manifold.



Product	Contents	Cat. no.
CompactPrep Plasmid Midi Kit (25) [†]	25 CompactPrep Midi Columns, Extender tubes, Reagents, Buffers, 25 QIAfilter Midi Cartridges	12743
CompactPrep Plasmid Midi Kit (100) [†]	100 CompactPrep Midi Columns, Extender tubes, Reagents, Buffers, 100 QIAfilter Midi Cartridges	12745
CompactPrep Plasmid Maxi Kit (25) [†]	25 CompactPrep Maxi Columns, Extender tubes, Reagents, Buffers, 25 QIAfilter Maxi Cartridges	12763
CompactPrep Plasmid Maxi Kit (100) [†]	100 CompactPrep Maxi Columns, Extender tubes, Reagents, Buffers, 100 QIAfilter Maxi Cartridges	12765
CompactPrep Plasmid Midi Core Kit (100) ^{*†}	100 CompactPrep Midi Columns, Extender tubes, Reagents, Buffers	12845
CompactPrep Plasmid Maxi Core Kit (100) ^{*†}	100 CompactPrep Maxi Columns, Extender tubes, Reagents, Buffers	12865

* CompactPrep Core Kits do not contain QIAfilter modules and require centrifugation for lysate clearing.

[†] Require use of a vacuum device (e.g., QIAvac 24 Plus, page 394).

For further information: www.qiagen.com/PG/plasmidlargescale

EndoFree® Plasmid Kits

For purification of up to 10 mg endotoxin-free Advanced Transfection Grade plasmid or cosmid DNA

- Less than 0.1 EU/μg plasmid DNA
- Fast and simple procedure, with integrated endotoxin removal
- Up to 500 μg (Maxi), 2.5 mg (Mega), or 10 mg (Giga) yield of high-copy plasmid DNA
- LyseBlue reagent for optimum lysis and maximum DNA yield

Product description

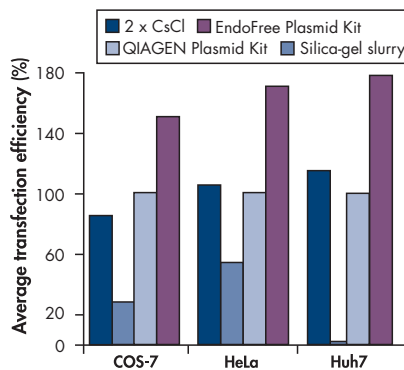
EndoFree Plasmid Kits provide rapid, anion-exchange-based endotoxin-free plasmid DNA purification. QIAfilter Cartridges enable fast lysate clearing by filtration. The purified DNA exceeds the purity obtained by 2 x CsCl gradient centrifugation and is suitable for Advanced Transfection Grade applications (see page 72).

Applications

EndoFree Plasmid Kits yield endotoxin-free DNA which is well suited for all sensitive applications, including:

- Transfection of sensitive cells
- Research on gene therapy and genetic vaccination
- Plasmid-mediated gene silencing

Plasmid Purification Method vs. Transfection Efficiency



pRSVcat preparations obtained with each method shown were each transfected into COS-7, and HeLa cells using a liposome-mediated method and into Huh7 cells using calcium phosphate. Average transfection efficiencies are expressed as percentages relative to the efficiency obtained with DNA prepared using the QIAGEN Plasmid Kit (100%).

Product	Contents	Cat. no.
EndoFree Plasmid Maxi Kit (10)	10 QIAGEN-tip 500, Reagents, 10 QIAfilter Maxi Cartridges, Endotoxin-free Buffers	12362
EndoFree Plasmid Mega Kit (5)	5 QIAGEN-tip 2500, Reagents, 5 QIAfilter Mega-Giga Cartridges, Endotoxin-free Buffers	12381
EndoFree Plasmid Giga Kit (5)	5 QIAGEN-tip 10000, Reagents, 5 QIAfilter Mega-Giga Cartridges, Endotoxin-free Buffers	12391
EndoFree Plasmid Buffer Set	Buffers P1, P2, P3, QBT, QC, QN, ER, TE, Endotoxin-free H ₂ O, RNase A; for 10 plasmid mega- or 5 gigapreps	19048

For further information: www.qiagen.com/PG/plasmidlargescale



QIAGEN Ultrapure 100 Column.

Ultrapure 100 Column

For in-house purification of up to 100 mg endotoxin-free Advanced Transfection Grade plasmid DNA

- Endotoxins efficiently reduced to less than 0.1 EU/μg DNA
- Up to 100 mg ultrapure DNA
- DNA suitable for gene therapy research, transfection, and other sensitive applications
- Quick, easy setup, and simple lab operation
- No toxic or immunogenic reagents

Product description

The Ultrapure 100 Column provides large-scale, anion-exchange-based plasmid DNA purification with integrated endotoxin removal, yielding Advanced Transfection Grade DNA (see page 72).

Applications

The Ultrapure 100 Column yields plasmid DNA of a purity at least equivalent to that obtained after 2 x CsCl-gradient centrifugation. The simple endotoxin-removal step ensures that the purified DNA contains <0.1 EU/μg DNA. The DNA is therefore ideal for plasmid-mediated gene silencing, transfection, gene therapy research, and other sensitive applications.

RNase-free plasmid purification protocol available on request. For more information about the Ultrapure 100 Column, call QIAGEN Technical Services.

Product	Contents	Cat. no.
Ultrapure 100 Column*	Column (44 mm x 250 mm) containing QIAGEN Anion-Exchange Resin; for preparation of up to 100 mg plasmid DNA	11100
Ultrapure 100 Buffer Set	Buffers P1, P2, P3, QBT, QC, QN, ER, TE, Endotoxin-free water, RNase A; for preparation of up to 100 mg plasmid DNA	11910

* Requires use of Ultrapure 100 Buffer Set, cat. no. 11910.

For further information: www.qiagen.com/PG/plasmidlargescale

Tips and Cartridges

Product	Contents	Cat. no.
QIAGEN-tip 20 (25)	25 columns; 20 µg column capacity	10023
QIAGEN-tip 100 (25)	25 columns; 100 µg column capacity	10043
QIAGEN-tip 500 (25)	25 columns; 500 µg column capacity	10063
QIAGEN-tip 2500 (25)	25 columns; 2.5 mg column capacity	10083
QIAGEN-tip 10000 (5)	5 columns; 10 mg column capacity	10091
Ultrapure 100 Column	Column (44 mm x 250 mm) containing QIAGEN Anion-Exchange Resin; for preparation of up to 100 mg plasmid DNA	11100
QIAfilter Midi Cartridges (25)	25 QIAfilter Midi Cartridges	19743
QIAfilter Maxi Cartridges (25)	25 QIAfilter Maxi Cartridges	19763
QIAfilter Mega-Giga Cartridges (5)	5 QIAfilter Mega-Giga Cartridges, Buffer FWB	19781

RNase A and QIArack

Product	Contents	Cat. no.
RNase A (17,500 U)	2.5 ml (100 mg/ml; 7000 units/ml, solution)	19101
QIArack	1 rack for 12 x QIAGEN-tip 20, 8 x QIAGEN-tip 100, 6 x QIAGEN-tip 500 or HiSpeed Midi Tips, 4 x QIAGEN-tip 2500 or HiSpeed Maxi Tips, or 10 x QIAfilter Midi or Maxi Cartridges	19015

For further information: www.qiagen.com/PG/plasmidlargescale

Plasmid Buffer Sets and Individual Buffers

Product	Contents	Cat. no.
Plasmid Buffer Set	Buffers P1, P2, P3, QBT, QC, QF, RNase A; for 100 plasmid mini-, 25 midi-, or 10 maxipreps	19046
EndoFree Plasmid Buffer Set	Buffers P1, P2, P3, QBT, QC, QN, ER, TE, Endotoxin-free H ₂ O, RNase A; for 10 plasmid mega- or 5 gigapreps (endotoxin-free)	19048
Buffer P1 (500 ml)	500 ml Resuspension Buffer (RNase A not included)	19051
Buffer P2 (500 ml)	500 ml Lysis Buffer	19052
Buffer P3 (500 ml)	500 ml Neutralization Buffer	19053
Buffer N3 (500 ml)	500 ml Neutralization Buffer	19064
Buffer PE (concentrate, 100 ml)	100 ml Wash Buffer (5x concentrate for 500 ml Buffer)	19065
Buffer PB (500 ml)	500 ml Binding Buffer	19066
Buffer EB (250 ml)	250 ml Elution Buffer	19086
Buffer QBT (1000 ml)	1000 ml Equilibration Buffer	19054
Buffer QC (1000 ml)	1000 ml Wash Buffer	19055
Buffer QF (1000 ml)	1000 ml Elution Buffer	19056
Buffer DP3 (500 ml)	500 ml Neutralization Buffer	19084
Buffer DPA (1000 ml)	1000 ml Activation Buffer	19087
Buffer DPW concentrate (500 ml)	500 ml Wash Buffer	19085

For further information: www.qiagen.com/PG/plasmidlargescale

QIAGEN Plasmid Prep Service

For high-quality, low-endotoxin plasmid DNA

- High-quality plasmid DNA
- Fast turnaround time and expert service
- Comprehensive quality control with every prep

Applications

Preclinical-grade plasmid DNA manufactured with the QIAGEN Plasmid Prep Service is suitable for preclinical toxicology studies, gene-therapy research, DNA vaccination research, transfection, and other sensitive applications.

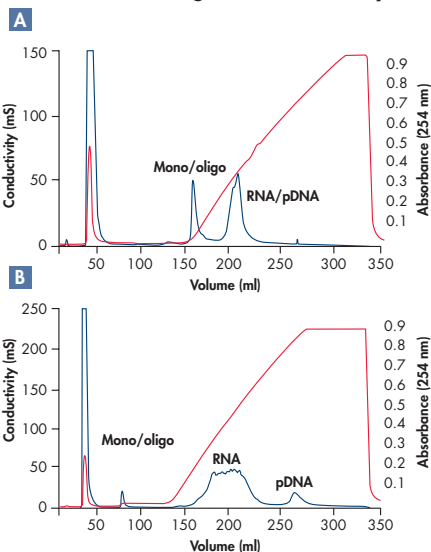
The QIAGEN Plasmid Prep Service provides plasmid DNA in amounts greater than 500 mg. Please visit our web page www.qiagen.com/plasmidprepservice for further information or for an individual quotation.



Product	Contents	Cat. no.
Plasmid Prep Service Customized	Custom plasmid preparation	820099

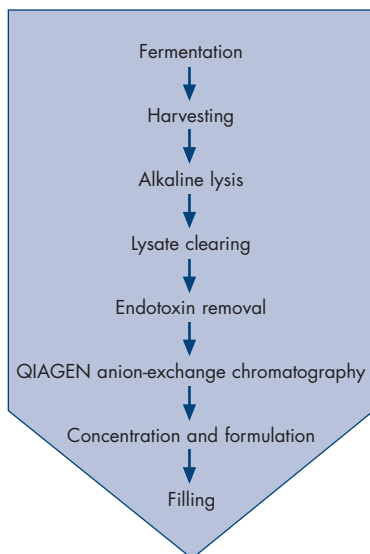
For further information: www.qiagen.com/PG/plasmidlargescale

Comparison of Standard Anion-Exchange and QIAGEN Anion-Exchange Resin Selectivity



A Plasmid DNA and RNA co-elute using conventional anion-exchange resin, while **B** QIAGEN Anion-Exchange Resin allows the elution of plasmid DNA and RNA at distinct salt concentrations.

QIAGEN Large-Scale Process



QIAGEN Resin and Manufacturing Process

QIAGEN Anion-Exchange Resin

- The most frequently used resin for plasmid purification
- Tailor-made and tested for nucleic acid purification
- A decade of superior performance in GMP processes
- License for established large-scale process available

QIAGEN Anion-Exchange Resin is used successfully in many plasmid manufacturing facilities at scales of 100 mg – 30 g DNA. Due to the unique separation characteristics of QIAGEN Anion-Exchange Resin, a single chromatography step is sufficient to produce high-quality plasmid DNA that has proven to be safe and effective in numerous preclinical and clinical trials across North America, Europe, and Australasia. QIAGEN Anion-Exchange Resin is available ready to use in prepacked Ultrapure 100 Columns (page 90).

QIAGEN Large-Scale Plasmid DNA Manufacturing Process

- A single-column process with excellent product quality
- Proprietary endotoxin removal step
- Optional RNase-free processing
- Drug Master File on file with the FDA

QIAGEN Anion-Exchange Resin is the core component of the QIAGEN Large-Scale Plasmid DNA Manufacturing Process (see flowchart), which has shown reliable performance in numerous production runs for gene therapy and DNA vaccine applications. The process is employed by several internationally renowned plasmid DNA contract manufacturers and has been used to generate numerous clinical batches of plasmid DNA. Drug Master Files for QIAGEN Anion-Exchange Resin and the QIAGEN manufacturing process are on file with the FDA. Licenses for the QIAGEN plasmid DNA manufacturing process, including technical transfer, process training, and consultation are available. CGMP manufacturing services can also be provided on request.

For further information: www.qiagen.com/PG/sequencingservices

QIAGEN Sequencing Services

The highest standard in contract DNA sequencing

- High-quality results — >99% accuracy for single reads; >99.99% for verification and de novo publication-ready sequences
- Fast project turnaround times — e.g., 3–5 working days for preparation and sequencing of small order volumes
- Complete service — includes sequence editing and applicable project documentation
- Optional template purification using QIAGEN separation technologies
- Additional services available, e.g., library construction, PCR amplification, and primer design and synthesis
- Flexible service — tailored to meet different sequencing requirements
- Expertise and track record in sequencing difficult templates and managing projects of all sizes
- Reliable support through an experienced team

Applications

Different sequencing-service levels and accessory services are offered, and are tailored to meet different sequencing requirements. The services include sequence editing, extensive support, and applicable project documentation, such as primer positions, contig strategies, and contig alignments. Template purification is optional, and is performed using QIAGEN nucleic acid purification technologies to provide the highest template quality for optimal results. Plasmids (including large constructs, such as P1s, PACs, and BACs), cosmids, M13 phages, PCR fragments, and genomic DNA can be used as templates or project starting material.

QIAGEN Sequencing Services are not available in the USA or Canada.

For further information: www.qiagen.com/PG/sequencingservices