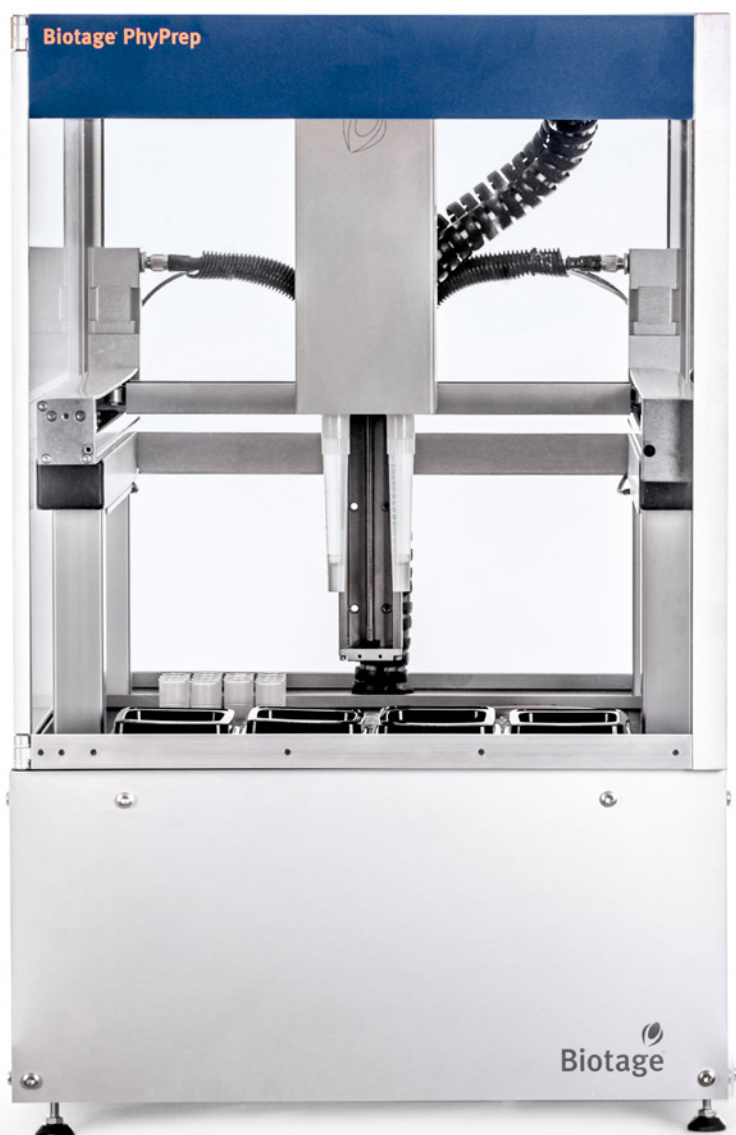


Biotage® PhyPrep Maxi

Endotoxin-free, Transfection Grade MaxiPrep.
Now automated.





**“I love
manual
MaxiPrep”**
(said no one ever)

That's Why We Automated It.

Biotage® PhyPrep automates the purification of plasmid DNA from cell pellets. The result is highly pure, endotoxin-free, supercoiled plasmid DNA - the optimal starting point for downstream applications, such as transient transfection and sequencing. Biotage® PhyPrep provides all the benefits of automation, including time and cost savings, consistent and reliable results – but at the same time, it also gives you the versatility of manual kits.

- ✓ Endotoxin-free, transfection grade plasmid DNA
- ✓ Consistent results
- ✓ Labor savings
- ✓ Designed for ease of use



Plasmid yield

1 mg from 5 g cell wet weight
(150–500 mL cell culture)



Samples per run

1–4



Endotoxin levels

<0.1 EU/μg



Endotoxin-free Transfection Grade Plasmid DNA

Plasmid Purification Results

We know that when it comes to plasmid quality, there's no room for compromise. Using our proprietary dual flow chromatography technology, Biotage® PhyPrep provides endotoxin-free, supercoiled plasmid DNA. This highly pure plasmid DNA is suitable for many downstream applications, such as transient transfection, in vivo studies, cloning, sequencing, genome editing and other molecular biology assays.

A frozen glycerol stock of DH5α transformed with a high copy plasmid, pUC containing a GFP gene was streaked on an LB, ampicillin plate to generate single colonies. Single colonies were used to inoculate 4 different 10 mL TB, ampicillin starter cultures. Starter cultures were incubated at 38 °C with shaking at 350 RPM for 8 hours. 250 µL of starter culture was used to inoculate 250 mL of fresh TB, ampicillin culture in Thomson baffled flasks.

Flasks were sealed with Thomson AirOtop seals and were incubated for 16 hours at 38 °C with shaking at 350 RPM to produce 5 grams of pellet wet weight following centrifugation. The samples were purified on Biotage® PhyPrep using a Biotage® plasmid maxiprep kit endotoxin-free. Samples were analyzed by UV absorbance (Table 1) and by gel (Figure 1). A 1% agarose gel were cast with 1X TAE. 70 volts were applied for 2.5 hours. Gels were stained in a solution of TAE, 0.5 µg/mL ethidium bromide for 10 minutes followed by destaining in water for 20 minutes. Gels were visualized using Bio-Rad Gel Doc EZ System.

Figure 1. Agarose gel electrophoresis analysis of plasmid DNA purified with Biotage® PhyPrep and Biotage® Plasmid MaxiPrep kit Endotoxin-free. The gel was run on a 1% agarose gel at 70 volts for 2.5 hours, then stained for 10 minutes and destained for 20 minutes. All samples were normalized to be 100 ng of plasmid.

Plasmid DNA purified by the Biotage® plasmid maxiprep kit endotoxin-free produced DNA that is free of endotoxin, genomic DNA and RNA contamination. The expected yield of 1 mg is reproducible. The A260/A230 absorbance ratio is consistent with the presence of 500 mM NaCl present from the elution buffer. The majority of the plasmid DNA is in the desired supercoiled form. Successful transient transfection of mammalian CHO-K1 cells was performed using the purified plasmid DNA (Figure 2). The transfection results for plasmid DNA prepared by Biotage® PhyPrep was comparable to plasmid DNA purified by an endotoxin-free, manual plasmid MaxiPrep kit (Qiagen).

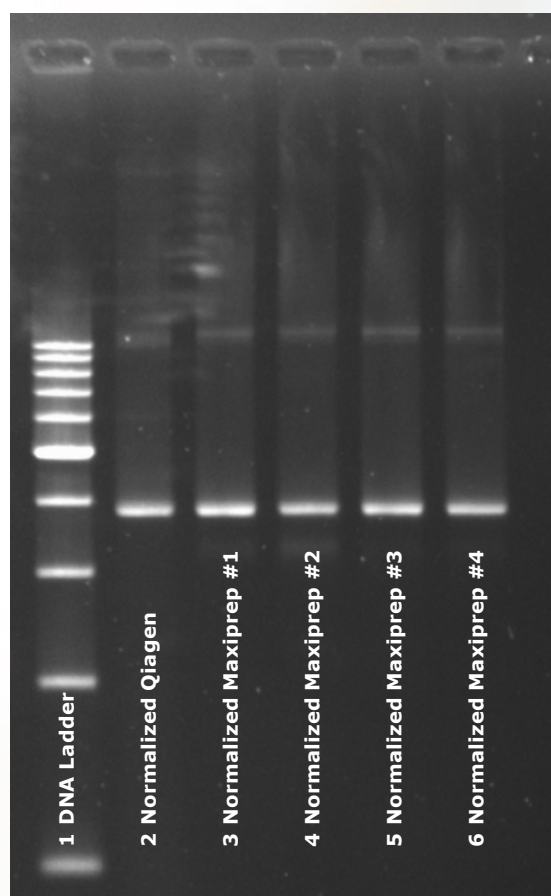


Table 1. UV absorbance data of plasmids purified with the PhyPrep MaxiPrep Kit. Actual yield is dependent on the plasmid copy number, culture growth conditions, strain of *E. coli* utilized, and cell pellet weight processed.

Sample ID	A260/A280	A260/A230	Plasmid concentration (mg/mL)	Volume (mL)	Yield (mg)	Endotoxin Level (EU/mL)	Endotoxin Level (EU/µg)
Maxiprep #1	1.88	2.47	0.253	4.55	1.15	< 5.0	< 0.02
Maxiprep #2	1.88	2.28	0.293	4.74	1.39	< 5.0	< 0.02
Maxiprep #3	1.89	2.29	0.291	4.79	1.39	< 5.0	< 0.02
Maxiprep #4	1.88	2.27	0.324	4.89	1.58	< 5.0	< 0.02

Transient Transfection

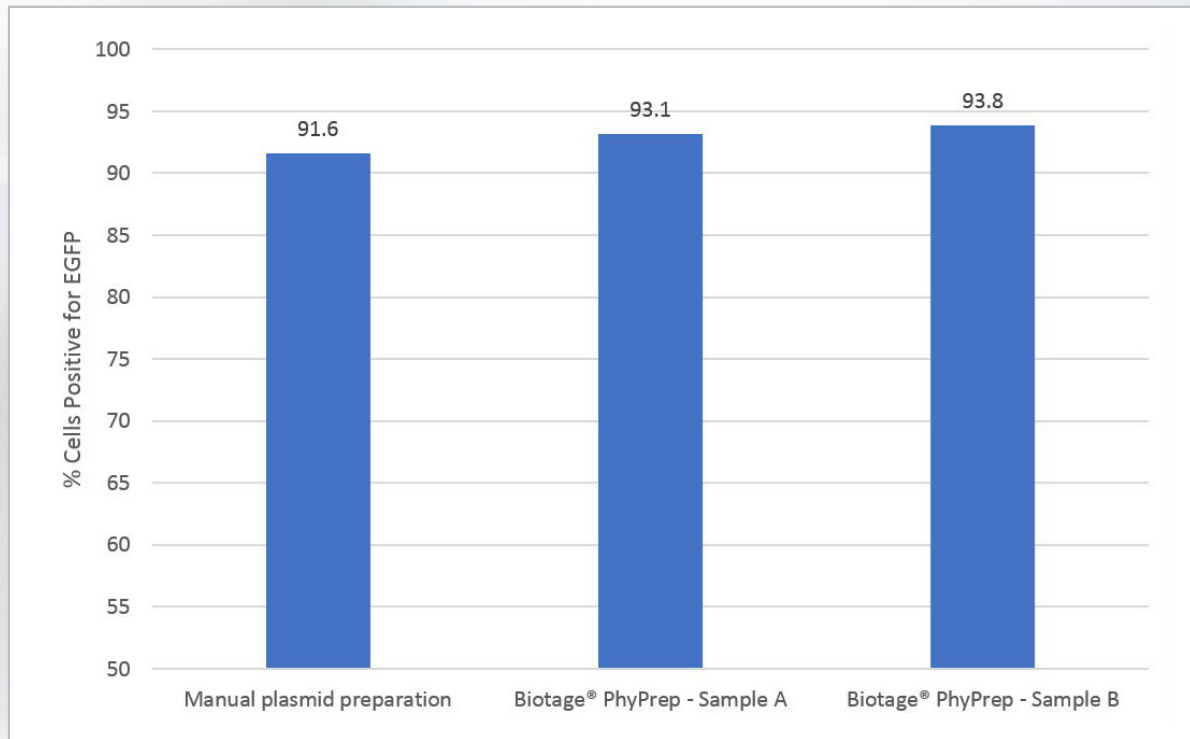


Figure 2. Transient transfection of CHO-K1 cells by two plasmid DNA samples purified with Biotage® PhyPrep and a manual endotoxin-free plasmid maxiprep kit (Qiagen). The purified plasmid DNA samples were subjected to ethanol precipitation and resuspended in 1 mL endotoxin-free water, which was used for transfection by TransIT-LT1 transfection reagent. Successful transfection defined was by percentage of GFP positive cells by E. Flow Cytometry.

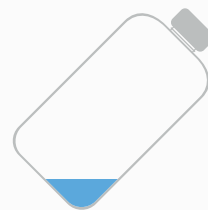
Automate Your Workflow

Spend Your Valuable Time Wisely

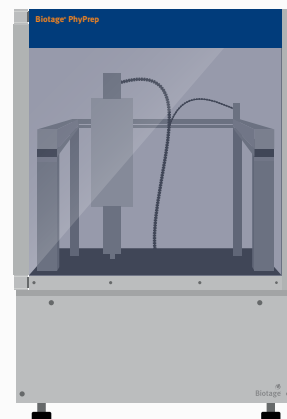
Manual plasmid purification can be a tedious, repetitive and time-consuming process. Automating this workflow enables you to make more effective use of your valuable time. Biotage® PhyPrep increases the productivity and efficiency of your laboratory, removing any bottleneck from plasmid purification.



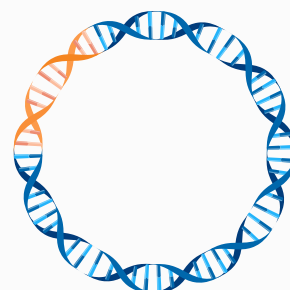
Cell Pellet



**Biotage®
PhyPrep**



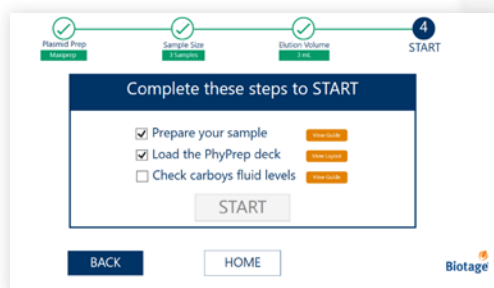
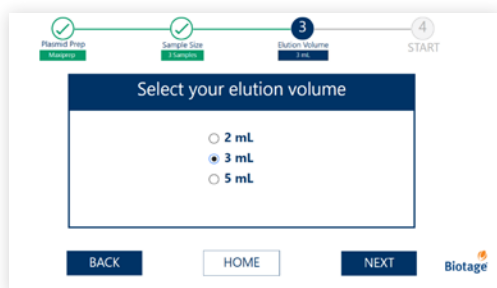
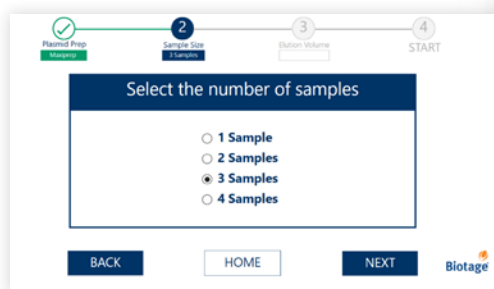
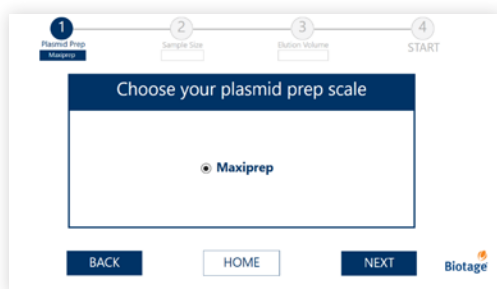
**Endotoxin Free
Plasmid DNA**



Easy to Use

Intuitive Design

Biotage® PhyPrep was developed to be easy to use – so anyone can purify plasmid DNA with excellent results. The color-coded pre-aliquoted buffer system enables you to prepare your cell pellet before loading the sample on the system deck. Through the intuitive touchscreen, you can select the desired number of samples and elution volume before starting a new run. The interface guides you step by step through the setup of a new run.





Consistency is Key

Stay in Control of Your Process

In protein expression workflows, consistent results are key to stay in control and streamline the process. Introducing automation is a great way to eliminate the risk of human error and inconsistent results.



Automated plasmid purification on the Biotage® PhyPrep provides highly reproducible results – you will get the same yield, purity and plasmid quality every time for your intended applications.

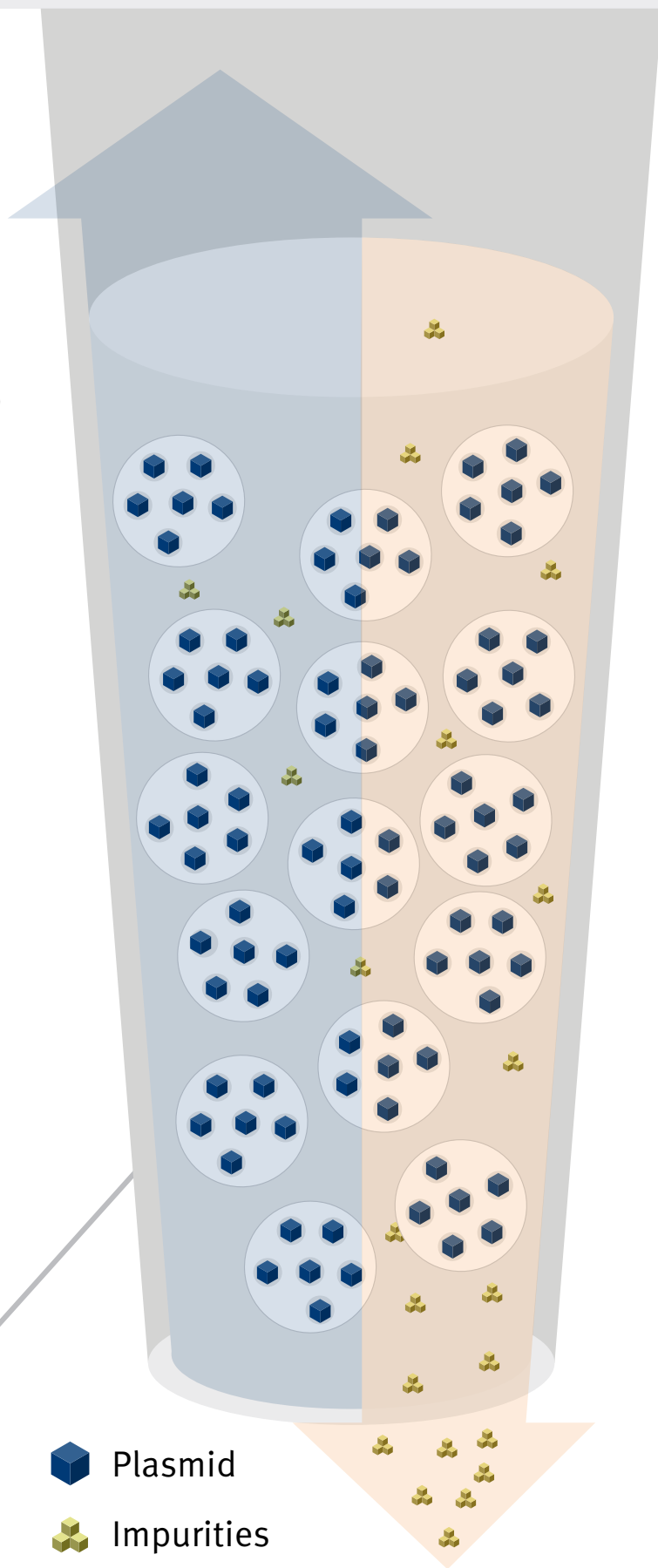
Proven Technology

Automated plasmid purification is made possible through our proprietary PhyTip® columns, packed with anion exchange resin. The sample is processed by dual flow chromatography – in this unique process, the sample flows back and forth through the PhyTip® column. Dual flow chromatography is a very gentle and reproducible purification process, which we have employed for small-scale automated protein purification since 2004.









Top Screen
Bottom Screen
Resin

 Plasmid
 Impurities






Technical Specifications

Operational Performance Specifications

	Purification scale	MaxiPrep
	Plasmid yield	≥1 mg from 5 g cell wet weight (150–500 mL cell culture) using a high-copy plasmid
	Throughput	1–4 samples per run
	Processing time	160 min for 1 or 2 samples, 270 min for 3 or 4 samples
	Elution volume	2, 3 or 5 mL
	Endotoxin levels of purified plasmid DNA	<0.1 EU/μg
	Purity of purified plasmid DNA	A260/A280 > 1.8, A260/A230 > 2.0

General System Specifications

	Weight	23 kg (50 lbs)
	Dimensions	Footprint: (W x D) 530 mm x 710 mm (20.8" x 27.9") Height: 830 mm (32.6")
	Interfaces	Touch screen 15"
	Max Power Consumption	100 V
	Certifications	CE, CB, TUV, NRTL

Ordering Information

Part number	Description	Qty
Instrument		
PHYPREP-MAXI	Biotage PhyPrep MaxiPrep	1
Consumables		
DPM-16-03-72-01	Biotage Plasmid MaxiPrep kit Endotoxin-free	1
DPM-00-20-00	50 mL conical tubes with caps, sterile, pyrogen-free	
DPM-00-20-01	50 mL conical tubes WITHOUT caps	



Your Complete Partner for Automated Protein and Plasmid Purification

Biotage is a worldwide supplier of instruments and accessories designed to facilitate the work of scientists in life sciences. With our deep knowledge of the industry, academic contacts and in-house R&D teams, we can deliver the best solutions to your challenges. We take great pride in our flexibility and ability to meet our customer's individual needs. With strong foundations in analytical, organic, process, and biomolecule chemistry, we can offer the widest range of solutions available on the market.

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