

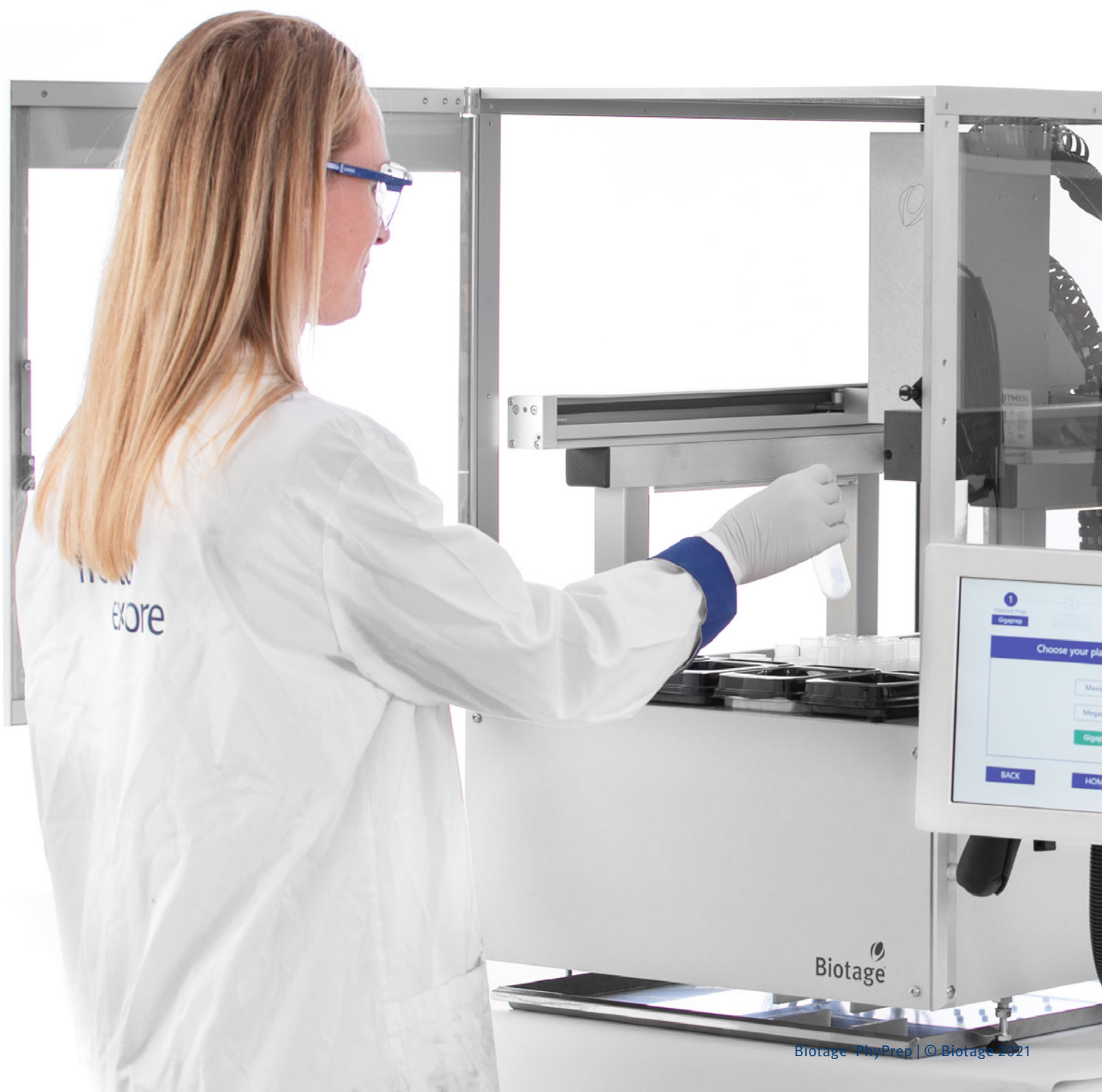
# Biotage® PhyPrep

Maxi, Mega, Giga



# Automated Plasmid Purification

Had enough of manual, time-consuming plasmid purifications? So have we. So we invented the Biotage® PhyPrep, which automates the purification of plasmid DNA from cell pellets at the Maxi, Mega and Giga scales. The result is highly pure, endotoxin-free\* plasmid DNA – the optimal starting point for downstream applications, such as transient transfection. Biotage® PhyPrep comes with everything needed to generate highly pure plasmids, from a simple sample preparation step to a fully automated purification procedure, freeing up your time to get on with the really important work – research.



- ✓ Transfection ready plasmid DNA
- ✓ Hands-free walkaway automation
- ✓ Intuitive, hassle-free software and workflow
- ✓ Consistent quality and results



**Plasmid yield**

1 mg (maxiprep)  
5 mg (megaprep)  
10 mg (gigaprep)



**Samples per run**

1-4



**Endotoxin levels**

<0.1 EU/μg\*



PhyPrep takes care of the plasmids, you can focus on your science.

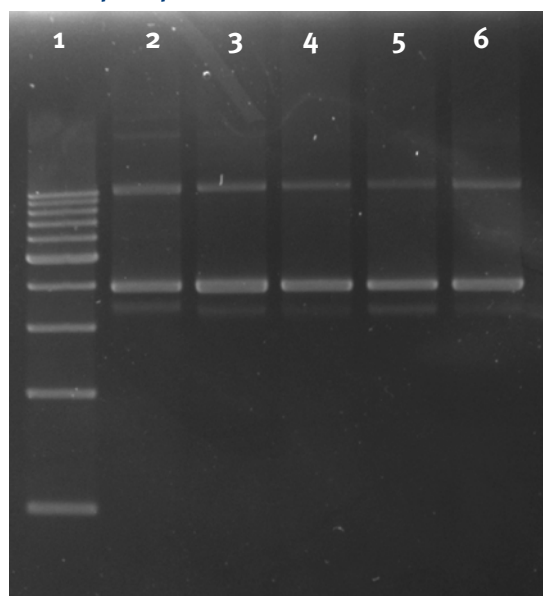
\*With rich media and high copy plasmids

# Endotoxin-free Transfection Grade Plasmid DNA

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, genome editing and other molecular biology assays.

\*With rich media and high copy plasmids

## Maxiprep Results



**Agarose gel electrophoresis analysis of plasmid DNA purified by the PhyPrep MaxiPrep Kit.**

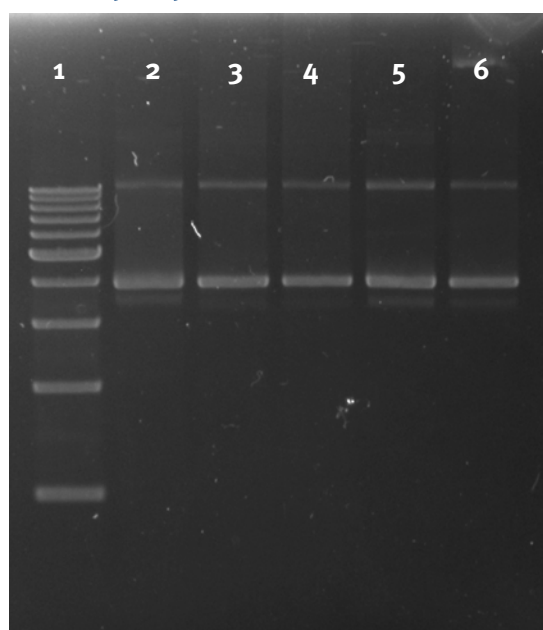
The gel was run on a 1% Agarose gel at 70 volts for 2.5 hours, then stained for 10 minutes and destained for 20 minutes. All samples were normalized.

Lane	Sample
1	DNA Ladder
2	Normalized Qiagen
3	Normalized Maxiprep #1
4	Normalized Maxiprep #2
5	Normalized Maxiprep #3
6	Normalized Maxiprep #4

Sample ID	Yield (mg)	Concentration (ng/uL)	A260/A280	A260/A230	Volume (mL)	Endotoxin Level (EU/μg)
Maxiprep #1	1.46	301	1.90	2.31	4.85	< 0.02
Maxiprep #2	1.66	334	1.91	2.31	4.95	< 0.02
Maxiprep #3	1.55	322	1.90	2.31	4.80	< 0.02
Maxiprep #4	1.60	287	1.92	2.31	5.57	< 0.02

**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.

## Megaprep Results



**Agarose gel electrophoresis analysis of plasmid DNA purified by the PhyPrep MegaPrep Kit.**

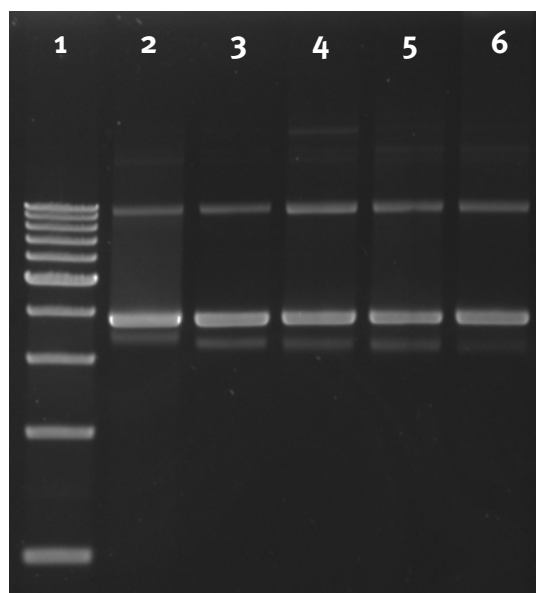
The gel was run on a 1% Agarose gel at 70 volts for 2.5 hours, then stained for 10 minutes and destained for 20 minutes. All samples were normalized.

Lane	Sample
1	DNA Ladder
2	Normalized Qiagen
3	Normalized Megaprep #1
4	Normalized Megaprep #2
5	Normalized Megaprep #3
6	Normalized Megaprep #4

Sample ID	Yield (mg)	Concentration (ng/uL)	A260/A280	A260/A230	Volume (mL)	Endotoxin Level (EU/μg)
Megaprep #1	5.91	326	1.92	2.42	18.1	< 0.02
Megaprep #2	5.9	330	1.92	2.43	17.9	< 0.02
Megaprep #3	5.0	270	1.91	2.39	18.6	< 0.02
Megaprep #4	6.0	301	1.91	2.35	20	< 0.02

**Table 2.** UV absorbance data of plasmids purified with the PhyPrep MegaPrep Kit. Actual yield is dependent on the plasmid copy number, culture growth conditions, strain of *E.coli* utilized, and cell pellet weight processed.

## Gigaprep Results



**Agarose gel electrophoresis analysis of plasmid DNA purified by the PhyPrep GigaPrep Kit.**

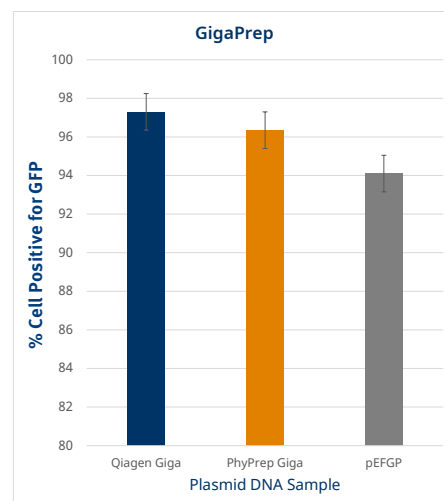
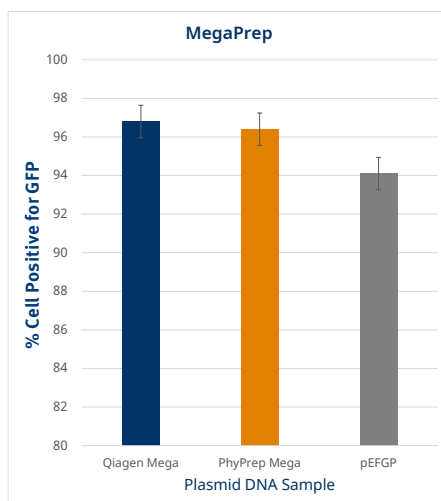
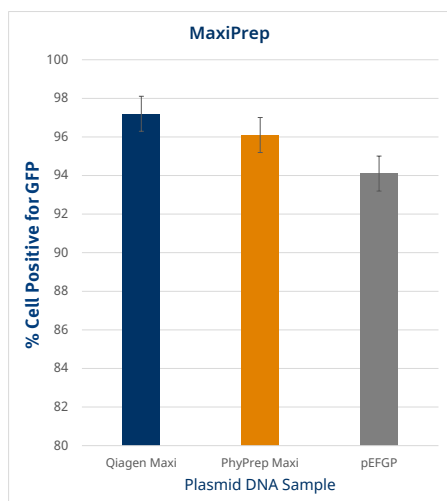
The gel was run on a 1% Agarose gel at 70 volts for 2.5 hours, then stained for 10 minutes and destained for 20 minutes. All samples were normalized.

Lane	Sample
1	DNA Ladder
2	Normalized Qiagen
3	Normalized Gigaprep #1
4	Normalized Gigaprep #2
5	Normalized Gigaprep #3
6	Normalized Gigaprep #4

Sample ID	Yield (mg)	Concentration (ng/uL)	A260/A280	A260/A230	Volume (mL)	Endotoxin Level (EU/μg)
Gigaprep #1	16.55	537	1.98	2.38	30.82	0.009
Gigaprep #2	11.94	379	1.94	2.34	31.53	0.070
Gigaprep #3	10.41	363	1.92	2.35	28.71	0.014
Gigaprep #4	13.75	530	2.01	2.41	25.96	0.030

**Table 3.** UV absorbance data of plasmids purified with the PhyPrep GigaPrep Kit. Actual yield is dependent on the plasmid copy number, culture growth conditions, strain of *E. coli* utilized, and cell pellet weight processed.

## Transient Transfection Results



**Results from transient transfection experiment performed by Mirus Bio.** Successful transient transfection is determined via the percent of cells positive for GFP. In all cases, plasmids successfully transfected over 95% of the mammalian cells. pEFGP is an external plasmid used as a standard control for the transient transfection reagent.



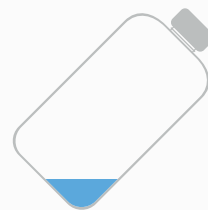
A black and white photograph of a laboratory setting. A person wearing a white lab coat and a black nitrile glove is holding a graduated cylinder. They are pouring a light-colored liquid from the cylinder into a multi-well plate. The background is slightly blurred, showing other lab equipment.

## **Automate Your Workflow**

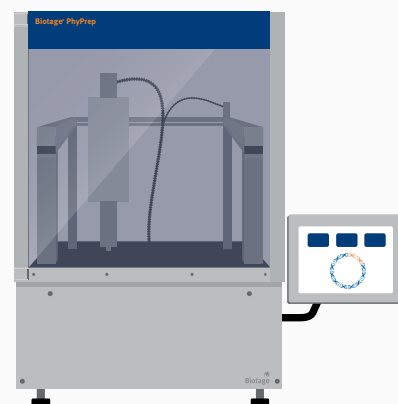
### **Spend Your Valuable Time Wisely**

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, vastly simplifying plasmid purification.

**Cell Pellet**



**Biotage®  
PhyPrep**



**Endotoxin Free\*  
Plasmid DNA**



\*With rich media and high copy plasmids







# Simple and intuitive

## Automation Made Easy

Biotage® PhyPrep is designed to make automation simple and easy to introduce to your laboratory. Cell pellet preparation makes use of pre-aliquoted buffers so that you can get your samples prepared within minutes in a reproducible manner without the need to dispense and measure solutions. The software is incredibly easy to use, requiring only a few options to select on the touch screen to set your purifications in motion. And once the PhyPrep is dealing with your sample, you can leave it, confident that when you return you'll have endotoxin-free\* purified plasmids.

1 Plasmid Prep 2 Sample Size 3 Elution Volume 4 START

Choose your plasmid prep scale

Maxiprep  
Megaprep  
Gigaprep

BACK HOME NEXT

1 Plasmid Prep 2 Sample Size 3 Elution Volume 4 START

Select the number of samples

1 Sample  
2 Samples  
3 Samples  
4 Samples

BACK HOME NEXT

1 Plasmid Prep 2 Sample Size 3 Elution Volume 4 START

Select your elution volume

5 mL

RUN TIME  
0 HOURS 42 MINUTES

BACK HOME NEXT

1 Plasmid Prep 2 Sample Size 3 Elution Volume 4 START

Complete these steps to START

- ✓ Clean deck and nozzles View Guide
- ✓ Prepare your sample View Guide
- ✓ Load the PhyPrep deck View Layout
- ✓ Check carboys liquid levels View Guide

BACK HOME START

\*With rich media and high copy plasmids

# Inspired Chromatography

## The Heart of the Process

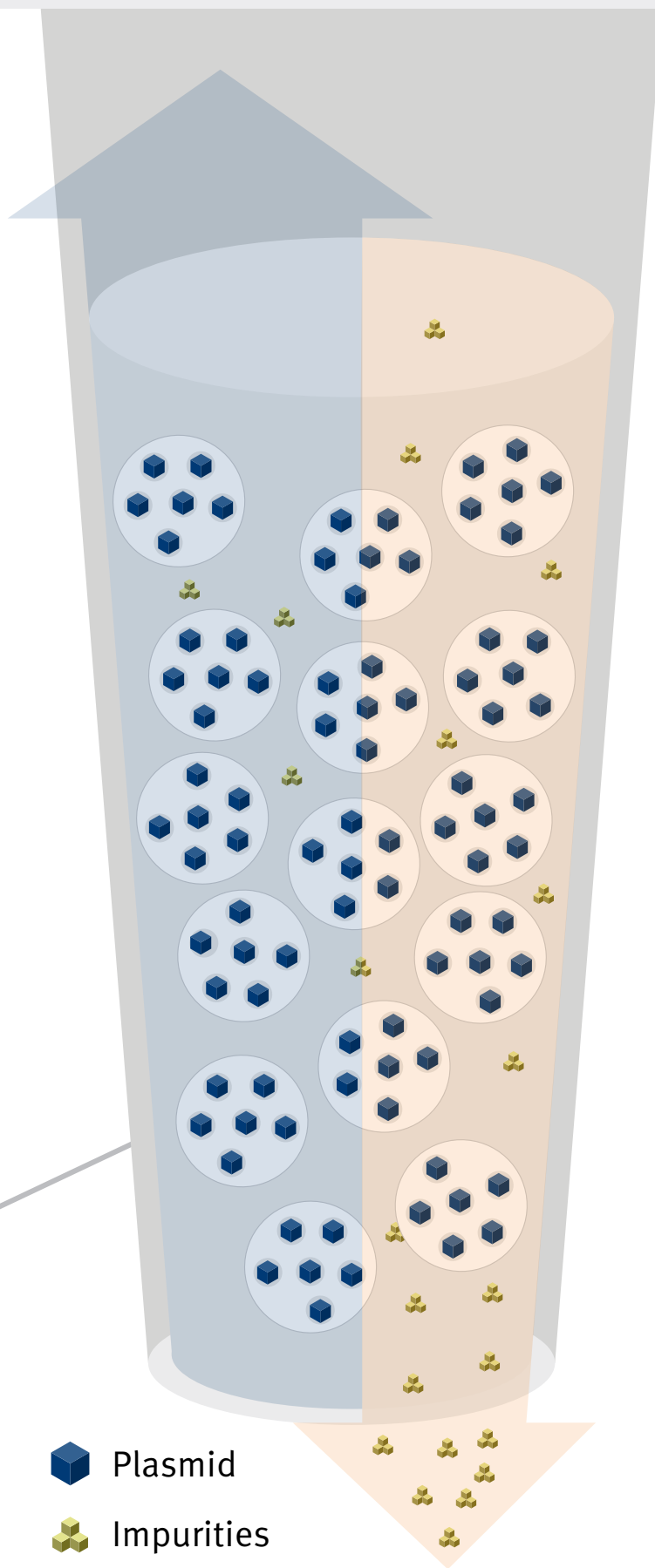
Automation provides a simple and reliable way to purify plasmids, taking a laborious and manual process away from highly-skilled scientists and freeing up time for more valuable work. This is achieved through the clever application of chromatographic purification, the heart of the process.

### Cutting-edge Chromatography

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










Top screen  
Resin  
Bottom screen



Plasmid  
Impurities

# Technical Specifications

## Operational Performance Specifications

	Purification scale	Maxiprep, Megaprep and Gigaprep
	Plasmid yield	Up to 1/5/10 mg from 5/8/16 g cell wet weight using rich media and a high-copy plasmid at Maxi/Mega/Giga scale
	Throughput	1–4 samples per run
	Processing time	Maxiprep: 42 mins for 1-2 samples, 70 mins for 3-4 samples Megaprep: 76 mins for 1-2 samples, 142 mins for 3-4 samples Gigaprep: 133 mins for 1 sample, 138 mins for 2 samples, 260 mins for 3 samples, 265 mins for 4 samples
	Elution volume	5/18/28 mL for Maxiprep, Megaprep, and Gigaprep
	Endotoxin levels of purified plasmid DNA	<0.1 EU/μg (with rich media and high copy plasmids)
	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 12"
	Max Power Consumption	580 VA
	Certifications	CE, CB, TUV, NRTL

# Ordering Information

Part number	Description	Qty
<b>Instrument</b>		
<b>416700</b>	Biotage PhyPrep (Requires 356330SP)	1
<b>356330SP</b>	Vacuum pump ME1C	1
<b>Consumables</b>		
<b>DPM-16-05-72-KIT</b>	Biotage Plasmid MaxiPrep kit Endotoxin-Free (16 Samples)	1
<b>DPM-16-10-72-KIT</b>	Biotage Plasmid MegaPrep kit Endotoxin-Free (16 Samples)	1
<b>DPM-08-20-72-KIT</b>	Biotage Plasmid GigaPrep kit Endotoxin-Free (8 samples)	1
<b>417458SP</b>	50 x PhyPrep Tubes for Biotage® PhyPrep	1
<b>DPM-00-10-00</b>	100 x 20 mL transfer tips for Biotage® PhyPrep	1
<b>DPM-00-25-00</b>	25 x 20 mL transfer tips for Biotage® PhyPrep	1





# 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.

## EUROPE

Main Office: +46 18 565900  
Fax: +46 18 591922  
Order Tel: +46 18 565710  
Order Fax: +46 18 565705  
order@biotage.com  
Support Tel: +46 18 56 59 11  
Support Fax: + 46 18 56 57 11  
eu-1-pointsupport@biotage.com

## NORTH & LATIN AMERICA

Main Office: +1 704 654 4900  
Toll Free: +1 800 446 4752  
Fax: +1 704 654 4917  
Order Tel: +1 800 446 4752  
Order Fax: +1 704 654 4917  
ordermailbox@biotage.com  
Support Tel: +1 800 446 4752  
us-1-pointsupport@biotage.com

## JAPAN

Tel: +81 3 5627 3123  
Fax: +81 3 5627 3121  
jp\_order@biotage.com  
jp-1-pointsupport@biotage.com

## CHINA

Tel: +86 21 68162810  
Fax: +86 21 68162829  
cn\_order@biotage.com  
cn-1-pointsupport@biotage.com

## KOREA

Tel: +82 31 706 8500  
Fax: +82 31 706 8510  
korea\_info@biotage.com  
kr-1-pointsupport@biotage.com

## INDIA

Tel: +91 11 45653772  
india@biotage.com

Distributors in other regions  
are listed on [www.biotage.com](http://www.biotage.com)

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