

Automated plasmid purification at Maxi, Mega and Giga scales

- Biotage® PhyPrep system

The Biotage® PhyPrep system automates plasmid DNA purification at Maxi, Mega and Giga scales. It is designed to handle high throughput purification with minimal hands-on time, allowing you to spend less time on routine sample prep and more time driving innovation. The system yields high-purity, transfection grade plasmid DNA suitable for demanding molecular biology applications.

By combining yield, purity and ease of use, the PhyPrep system fits seamlessly into a broad range of workflows in molecular biology and therapeutic development. Biotage® PhyPrep is your robust platform for accelerating timelines and enhancing quality - from mRNA vaccine development and viral vector production to gene-modified cell therapies.

Why Biotage® PhyPrep?

Biotage® PhyPrep is the only system with minimal hands-on time that combines scale, flexibility, automation, and high-yield output in one platform. It empowers researchers to streamline workflows, reduce variability, and accelerate timelines in drug discovery and development.

System benefits

- **Automation across scales:** Supports plasmid purifications at Maxi, Mega and Giga scales on the same platform. Consistent yields from ~1-10 mg across varying input volumes.
- **High purity and low endotoxin:** Delivers ready-to-use, low endotoxin, and transfection grade plasmid DNA for your downstream applications.
- **Efficient workflow:** Minimizes hands-on time and operator variability through pre-aliquoted reagents and automated processing. Intuitive software ensures consistent results and minimizes human error.
- **Reproducible output:** Standardized protocols and column technology ensure batch-to-batch consistency in yield and quality.
- **Advanced column design:** Växel columns combine low-pressure operation with packed-bed performance, enhancing purification efficiency.

System overview

Biotage® PhyPrep

The Biotage® PhyPrep system is a benchtop instrument engineered for automated plasmid DNA purification at scalable volumes. It accommodates Maxi, Mega and Giga prep formats, processing up to 16 g of cell pellet per run with minimal hands-on time. The system utilizes proprietary Våxel column technology, which combines low-pressure operation with packed-bed performance to ensure efficient DNA recovery and high purity.

Biotage® PhyPrep's intuitive touchscreen interface allows users to select purification scale and initiate runs with validated protocols, reducing set-up time and training requirements. Reagent kits are pre-aliquoted and optimized for each scale, supporting reproducibility.

Key features

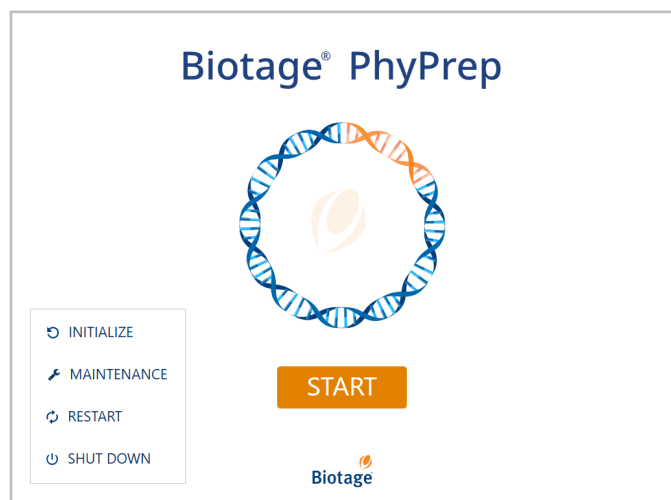
1. User-friendly interface
2. Supports Maxi, Mega and Giga scale purification of up to 10 mg
3. Transfection grade plasmid DNA
4. Dual flow chromatography for consistent results
5. New concentration kits for optimized elution volumes
6. High plasmid yield (>1- 10 mg)



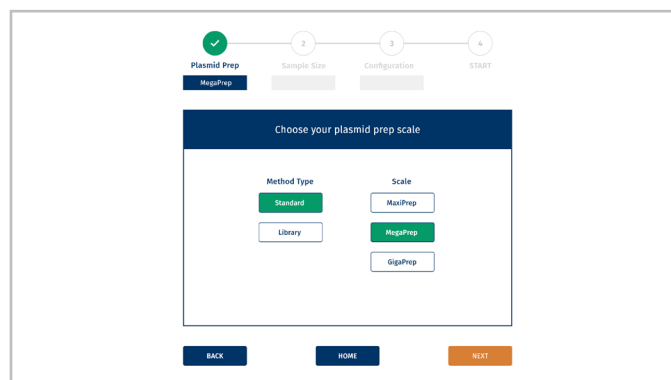
New software 7.2

The software features a user-friendly step-by-step guide, where the user can choose between different scales, number of samples, and if the samples should be purified, concentrated or purified and concentrated. The concentrator features are enabled by default, allowing users to run purification and concentration standard methods. These features require new hardware, either via a new instrument or by upgrading through a retrofit kit (419295SP). The software also contains on-screen instructional videos and pictures on how to prepare the instrument and samples.

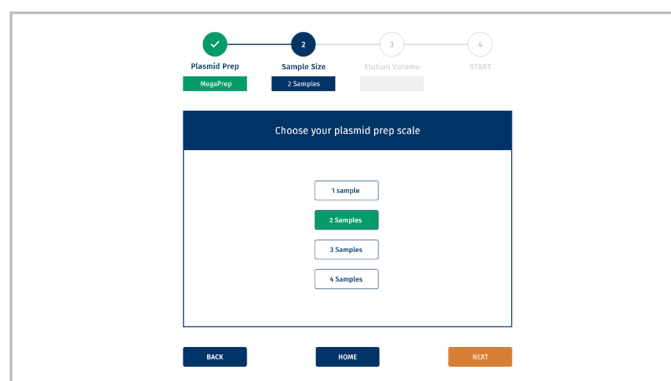
Software standard method type



1. Press START to go to the prep scale selection screen.

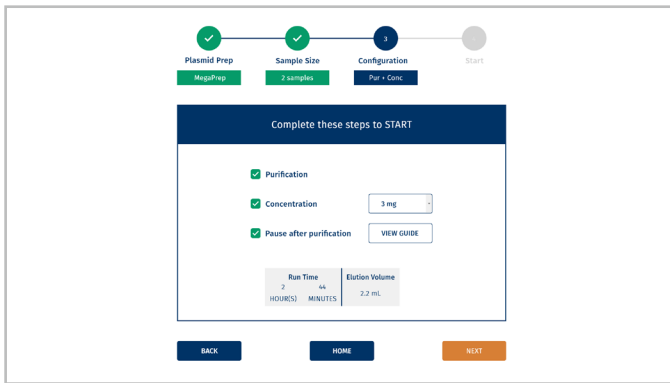


2. Select your method type. This follows Standard. Select your desired plasmid prep scale. Then press NEXT.



3. Select the number of samples. Then press NEXT.

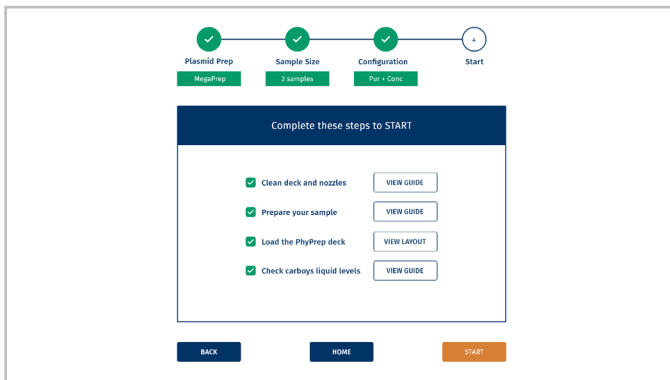




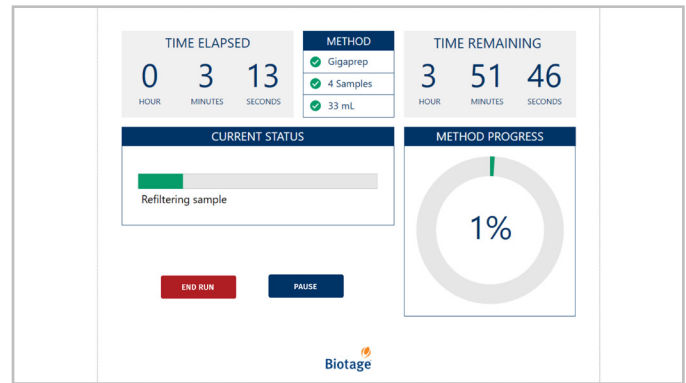
4. The software give you the option to run:
- The purification method
 - The concentration method
 - The purification and concentration method together
 - The purification and concentration with a pause in-between steps to select the concentration column based on the results of the purification step.

The loading of the Biotage® PhyPrep deck will be adjusted depending on the selected method.

Select your desired method configuration.
Then press NEXT.



5. Review the instructions for sample preparation and deck layout for your sample and check the carboy liquid level to ensure they are not full. Check the boxes to confirm and press START.



6. Once the method is completed, press QUIT.

Finally, it is also possible to load custom method libraries onto the instrument, allowing end users to run customized methods for the following:

- Transient transfection
- mRNA synthesis
- Molecular cloning
- Viral vector production
- Gene therapy research

Technical specifications

Operational performance specifications

Purification scales	MaxiPrep, MegaPrep, GigaPrep
Plasmid yield	Up to 1/5/10 mg from 2/4.5/7 g cell wet weight using rich media and a high-copy plasmid at Maxi/Mega/Giga scale, respectively.
Throughput	1-4 samples per run
Input capacity	Up to 16 g cell pellet per run
Processing time	~42 min (maxi, 1-2 samples), ~298 min (giga, 1-2 samples)
Elution volume	5 ml (Maxi), 18 ml (Mega), 28 ml (Giga)
Plasmid DNA	Transfection-grade (with rich media and high copy plasmids); < 80-90% supercoiled plasmid DNA
Purity of purified plasmid DNA	A260/A280 1.8-1.95, A260/A230 > 2.0
Column technology	Växel low-pressure packed-bed columns for high-efficiency DNA recovery
Yield consistency	≥95% recovery across scales
Certifications	CE, CB, TUV, NRTL

General system specifications

System dimensions (W x D x H)	530mm/20.8" (W) x 710 mm/27.9" (D) x 830 mm/32.6" (H)
Weight	48 kg (105 lbs), excluding PC
Software interface	12" touch screen with scale selection and protocol automation
Max power consumption	820 VA (100 VA for only the instrument)
Certifications	CE and FCC marked and CB and NRTL certified



Ordering information

Instrument

Part number	Description	Qty
416700	Biotage PhyPrep (requires 356330SP)	1
356330SP	Vacuum pump ME1C	1
417550SP	Accessory kit, vacuum pump ME1C PhyPrep	1
419295SP*	Retrofit upgrade kit*	1

*Only required for an older instrument upgrade

Consumables

Part number	Description	Qty
DPM-16-05-72-KIT-2	Biotage Plasmid MaxiPrep kit (16 Samples)	1
DPM-16-10-72-KIT-2	Biotage Plasmid MegaPrep kit (16 Samples)	1
DPM-08-20-72-KIT-2	Biotage Plasmid GigaPrep kit (8 samples)	1
417458SP	50 x PhyPrep tubes for Biotage® PhyPrep	1
DPM-00-10-00	100 x 20 mL transfer tips for Biotage® PhyPrep	1
DPM-00-25-00	25 x 20 mL transfer tips for Biotage® PhyPrep	1
DPM-16-12-70-KIT	Biotage concentrator kit (0.6 mg)	1
DPM-16-32-70-KIT	Biotage concentrator kit (1.2 mg)	1
DPM-16-50-70-KIT	Biotage concentrator kit (3.0 mg)	1
DPM-16-85-70-KIT	Biotage concentrator kit (5.5 mg)	1
DPM-08-15-70-KIT	Biotage concentrator kit (9.5 mg)	1
DPM-08-22-70-KIT	Biotage concentrator kit (12.0 mg)	1



Service and support

Every Biotage® PhyPrep system comes backed with a one-year full warranty, giving you complete peace of mind that your investment is protected. During this period, coverage can also include an optional preventative maintenance visit to ensure your instrument continues performing at its best. Our Biotage 1-Point Support team offers remote assistance via email or phone (<https://www.biotage.com/contact-support>)

Our highly trained service engineers are strategically located around the globe, enabling quick and efficient response times to minimize downtime and keep your lab moving forward. Once the initial warranty expires, our 1-Point team is ready to provide comprehensive service contract options, effectively extending your warranty and keeping your Biotage® PhyPrep running reliably for years to come.

Biotage® 1-Point Support™



For local office contact information,
visit [biotage.com/contact](https://www.biotage.com/contact)

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