Hamilton Liquid Handling + Omega Bio-tek DNA & RNA Purification

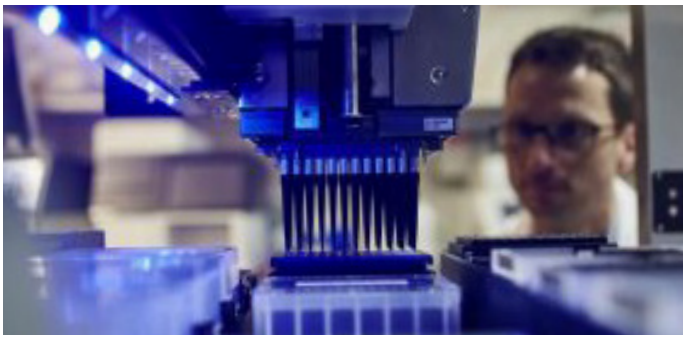
Automated magnetic bead-based purification solutions

omega BIO-TEK

omegabiotek.com

Experts in High-Throughput DNA & RNA Purification

Omega Bio-tek's focus is nucleic acid purification. With a diversified portfolio of DNA and RNA purification kits utilizing our silica filtration and magnetic bead technology, we can tailor our chemistry and packaging to suit your high-throughput purification needs. Our Mag-Bind® magnetic bead-based systems consist of 9 types of magnetic beads. While other competitors may try to use one type of beads for a variety of sample types, Omega Bio-tek matches our magnetic beads with optimized buffers chemistries to achieve optimal purification efficiency. Together with Hamilton Robotics, we accelerate genomics research worldwide.

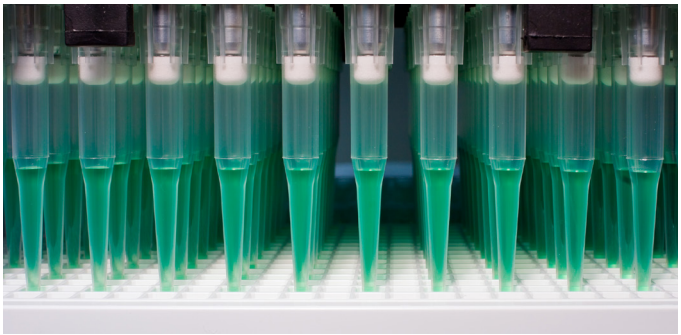


Application Support

Pre- and post- sales, our automation team will guide you through your options and work with you to develop a solution that fits your needs. We offer scripting support for the complete line of Hamilton Robotics liquid handlers. Our team will work on-site or remotely to assist with method development and ensure a smooth installation.

Customized and Pre-filled Solutions

From simple to complex samples, we can tailor our reagent systems to the customer's needs. We will work with the customer to customize our kits to adapt to their sample type or their workflow. We also offer turnkey, barcoded kits, pre-filled with all of the reagents needed to fully atuomate the extraction process, allowing scientists to seamlessly automate and fully trace every run.



Cost Savings

The average Omega Bio-tek customer saves over 30% on their consumable costs. The customer might see savings in reagents, as well as plasticware usage, due to our optimized scripts.

Pre-Scripted Applications for the Hamilton Microlab® STAR™

Product	Target Nucleic Acid	Sample Type	Sample Amount	Est. Offline Processing	Online Processing
Mag-Bind® cfDNA LSP Kit	Cell-free DNA	Plasma/Serum	Up to 4 mL	5 min.	105 min
Mag-Bind® Blood & Tissue DNA HDQ 96 Kit	gDNA	Whole blood, saliva	Up to 250 µL	5 min	80 min
		Buccal swabs	1 Swab	30 min	70 min
		Cultured cells & soft tissues	1 x 10^6 cells, 5-10 mg tissues	5 min for cells, 1-3 hr for tissue	80 min cells, 70 min tissue
Mag-Bind® cfDNA Kit	Cell-free DNA	Plasma/serum	Up to 10 mL	5 min	80 min
Mag-Bind® Universal Pathogen Kit	Bacterial, fungal, yeast DNA, viral DNA/RNA	Plasma/serum	Up to 250 µL	30 min	60 min
		Urine			
		Stool			
Mag-Bind® Viral DNA/RNA Kit	Viral DNA & RNA	Plasma/serum	Up to 200 µL	5 min	60 min
Mag-Bind® Total RNA Kit	Total RNA	Cultured cells & soft Tissues	1 x 10^6 cells, 5-10 mg tissue	20 min	70 min
Mag-Bind® FFPE DNA Kit	gDNA	FFPE	Up to 20 microns	3-5 hours/over-night	70 min
Mag-Bind® Environmental DNA Kit	Bacterial, yeast, fungal DNA	Soil & environmental samples	Up to 250 mg	45 min	60 min
Mag-Bind® TotalPure NGS	Fragmented DNA	PCR products & next-generation sequencing	10-100 µL	5 min	30 min
Mag-Bind® Plant DNA DS Kit	gDNA	Plant tissue	50-100 mg	45 min	85 min

For further information, please contact us at **automation@omegabiotek.com**.
Visit www.omegabiotek.com/high-throughput for more information.

Mag-Bind® cfDNA LSP Kit

PLUG-AND-PLAY

Pre-scripted, prefilled, fully automated cfDNA isolation solution from 4 mL plasma or serum

Load

- Reagents and buffers ready-to-run in prefilled, automation-ready reservoirs and tubes
- Remove seals and load components directly onto automation deck

Scan

- Barcoded reservoirs and tubes identify reagent and buffer positions without intervention
- Components can be placed in any position on the automation deck

Purify

- 96 (4 plates) 4 mL samples eluted in as little as 50 µL in ~3.5 hours
- Same proven chemistry as our Mag-Bind® cfDNA Kit

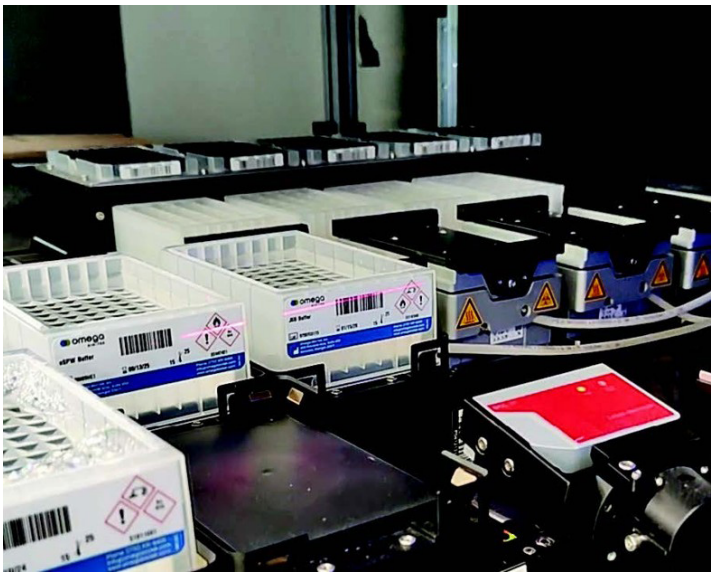
Features	Specifications
Starting material	Plasma/serum
Starting Amount	4 mL
Elution Volume	50-200 µL
Processing Mode	Automated
Format	Reservoirs & Tubes
Nucleic Acid Binding Technology	Magnetic Beads

Product	Preps	Cat. No.
Mag-Bind® cfDNA LSP Kit	4 x 24	PS3298-1-96PF

The Mag-Bind® cfDNA LSP Kit is designed for the efficient and reliable purification of circulating cell-free DNA (cfDNA) from plasma or serum samples. This Kit is automation-ready, featuring pre-filled and barcoded reagent reservoirs and tubes for seamless integration with most open liquid handling platforms, thus ensuring traceability, consistency, and high-quality results across large sample sets.

This workflow offers a fully automated solution for extracting DNA after sample transfer, reducing hands-on time while improving extraction efficiency and accuracy. Barcoded reagent reservoirs and tubes are scannable to allow the instrument to recognize reagent placement on liquid handler decks.

The extracted genomic DNA is high-quality and suitable for use in downstream applications such as PCR and Next-Generation Sequencing (NGS).



Mag-Bind® cfDNA LSP Kit

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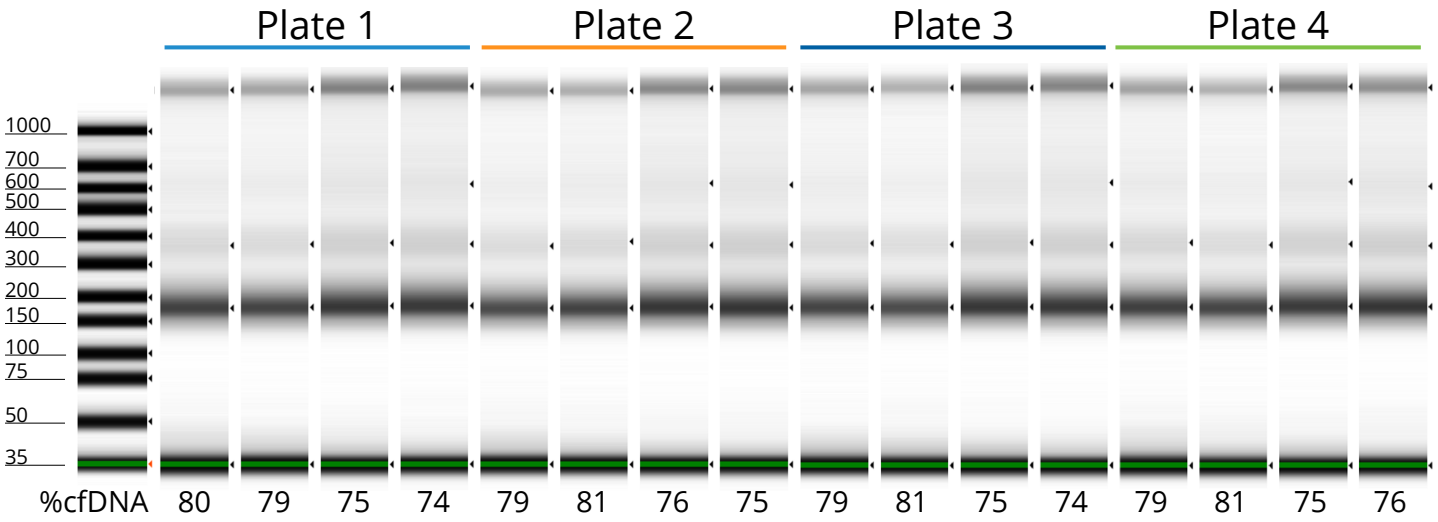
Reproducible Results Across Multiple Plates

A



B

Plate	Sample	Conc. 50-700 bp (pg/µL)	Avg. Total Yield 50-700 bp (ng)	Std. Dev
1	1	280	31.9	4.47
	2	281		
	3	358		
	4	358		
2	1	261	32.3	5.32
	2	297		
	3	360		
	4	374		
3	1	280	31.6	5.08
	2	264		
	3	354		
	4	364		
4	1	289	32.1	4.15
	2	285		
	3	337		
	4	372		

cfDNA was extracted from 4 mL pooled plasma and eluted in 100 µL. 4 x 24 samples were processed in ~3hrs 20 min on a Hamilton Microlab® STAR™. A) TapeStation analysis of cfDNA extracted with the Mag-Bind® cfDNA LSP Kit shows well-defined cfDNA bands ~180 bp. B) Concetration in 50-700 bp range and average yield are shown and illustrate reproducibility across multiple plates.

Mag-Bind® Blood & Saliva DNA LSP Kit

PLUG-AND-PLAY

Pre-scripted, prefilled, fully automated DNA isolation from blood, buccal swabs, saliva & tissue using magnetic beads

Load

- Reagents and buffers ready-to-run in prefilled, automation-ready reservoirs and tubes
- Remove seals and load components directly onto automation deck

Scan

- Barcoded reservoirs and tubes identify reagent and buffer positions without intervention
- Components can be placed in any position on the automation deck

Purify

- 384 (4 plates) samples eluted in as little as 50 µL in ~2.5 hours
- Purified DNA is high-quality and suitable for use downstream in applications such as PCR and NGS

The Mag-Bind® Blood & Saliva DNA LSP Kit is designed for the efficient and reliable purification of genomic DNA from 250 µL blood, 500 µL saliva, 100 µL buffy coat, or 1 x 10^6 cultured cells. This Kit is automation-ready, featuring pre-filled and barcoded reagent reservoirs and tubes for seamless integration with most open liquid handling platforms, thus ensuring traceability, consistency, and high-quality results across large sample sets.

This workflow offers a fully automated solution for extracting DNA after sample transfer, reducing hands-on time while improving extraction efficiency and accuracy. Barcoded reagent reservoirs and tubes are scannable to allow the instrument to recognize reagent placement on liquid handler decks.

The extracted genomic DNA is high-quality and suitable for use in downstream applications such as PCR and Next-Generation Sequencing (NGS).

Features	Specifications
Starting material	Blood, stabilized saliva, buffy coat, cultured cells
Starting Amount	250 µL blood samples, 500 µL saliva, 100 µL buffy coat, or 1 x 10^6 cultured cells
Elution Volume	50-200 µL
Processing Mode	Automated
Nucleic Acid Binding Technology	Magnetic Beads
Downstream Application	NGS, qPCR, microarray

Product	Preps	Cat. No.
Mag-Bind® Blood & Saliva DNA LSP Kit	4 x 96	PS6399-1-384PF

Consistent, Automated gDNA Extraction from

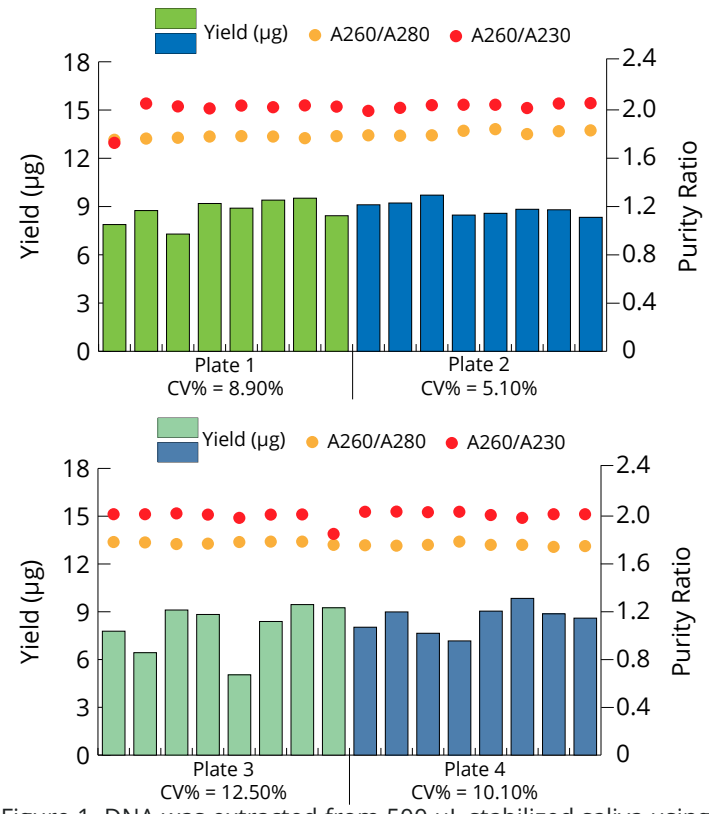


Figure 1. DNA was extracted from 500 µL stabilized saliva using the Hamilton Microlab® STAR™ and eluted in 100 µL. 4 x 96 sample plates were processed in ~2.5 hrs. High yields of high-quality DNA were consistently extracted across four plates.

Mag-Bind® Blood & Saliva DNA LSP Kit

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Consistent, Automated DNA Extraction from Blood

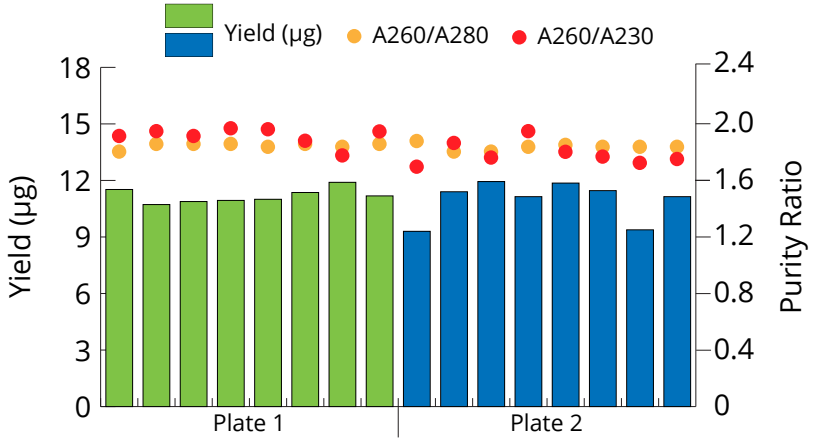

Figure 2. Genomic DNA was extracted from 250 µL frozen blood samples (n=8 per plate) and eluted in 200 µL. 2 x 96 sample plates were processed in ~2 hrs on a Hamilton Microlab® STAR™. Genomic DNA yields and qualities were consistent across both plates.

Automated Genomic DNA Extraction from Blood with Minimal Shearing

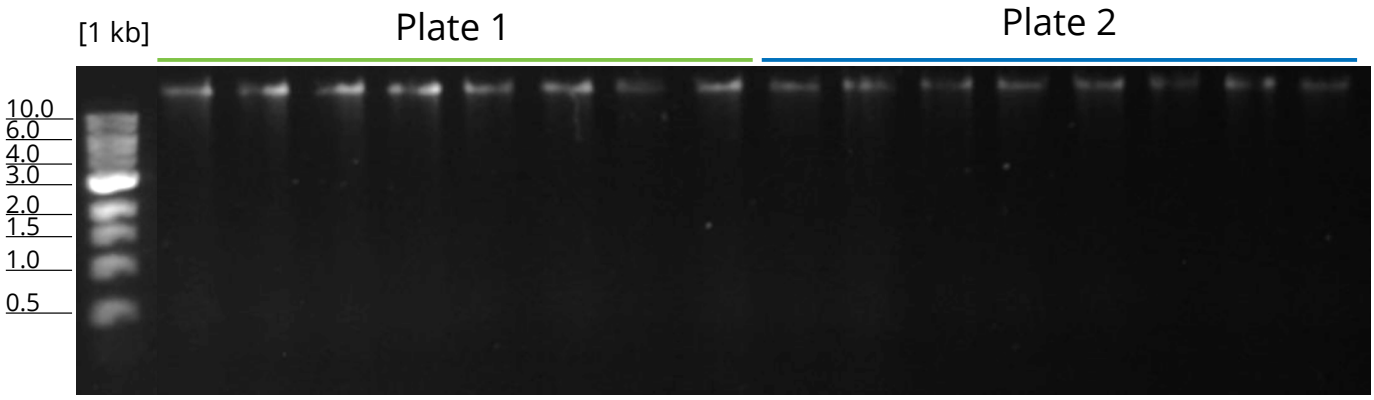

Figure 3. Genomic DNA extracted from blood samples was visualized on a 1% agarose gel. Well-defined gDNA can be seen with minimal shearing.

Inhibitor-free Automated gDNA Extraction from Blood

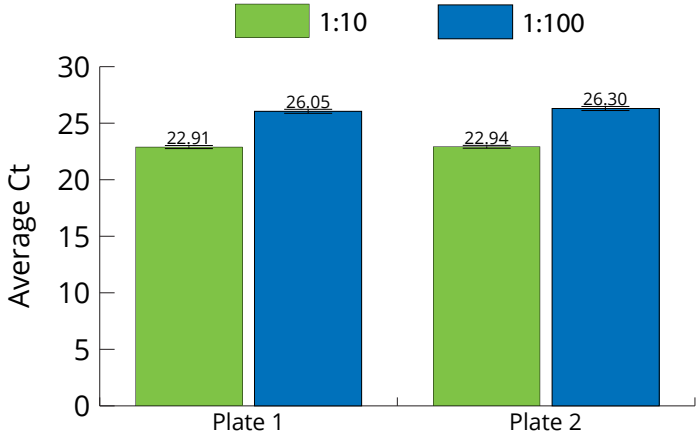

Figure 4. Average Ct values obtained on 10X and 100X dilutions of purified DNA extracted from 250 µL frozen blood using the Mag-Bind® Blood & Saliva LSP Kit automated on a Hamilton Microlab® STAR™. The Ct values differed by ~3.3 cycles per 10-fold dilution, indicating inhibitor-free and efficient downstream qPCR analysis. .

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