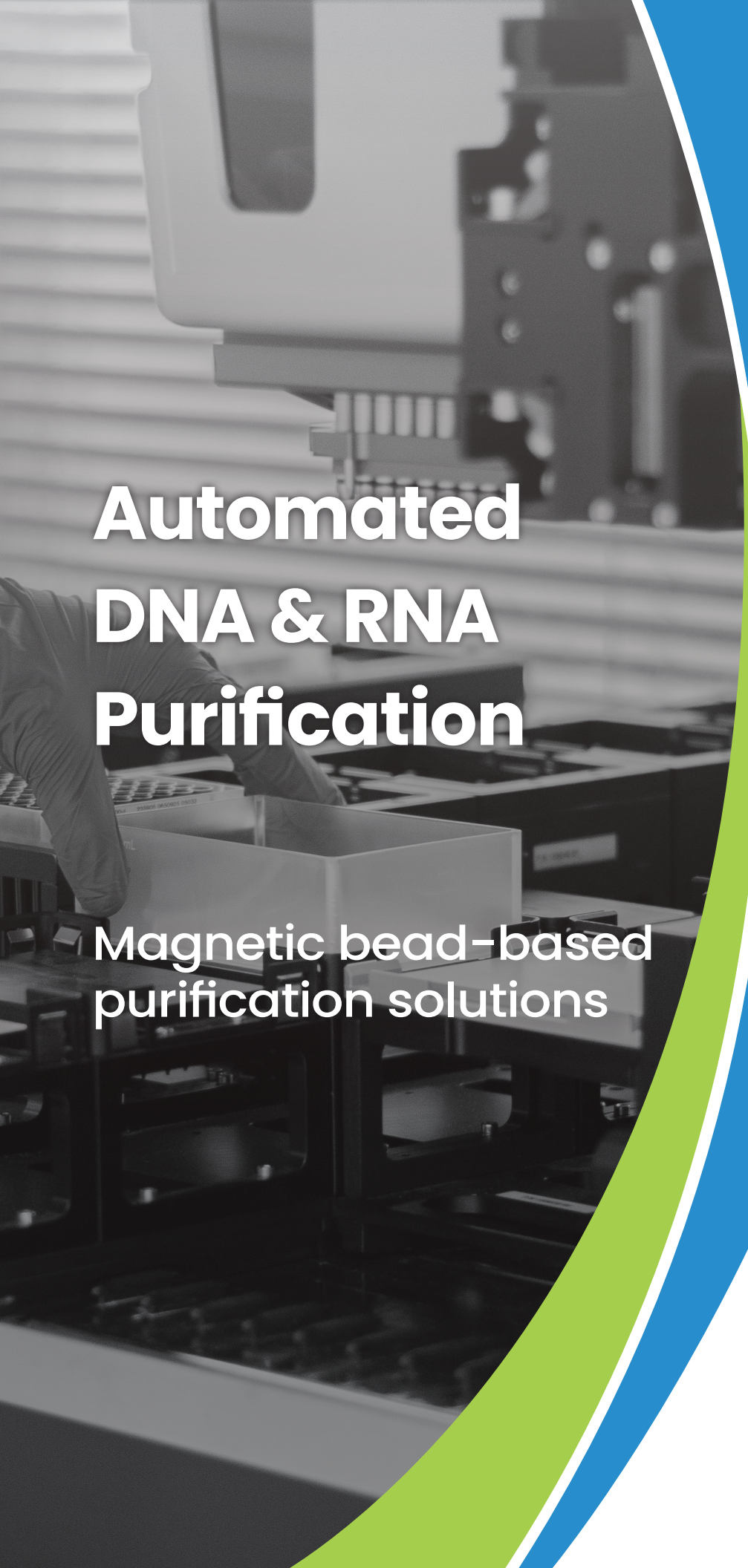


Automated DNA & RNA Purification

Magnetic bead-based purification solutions

omega BIO-TEK

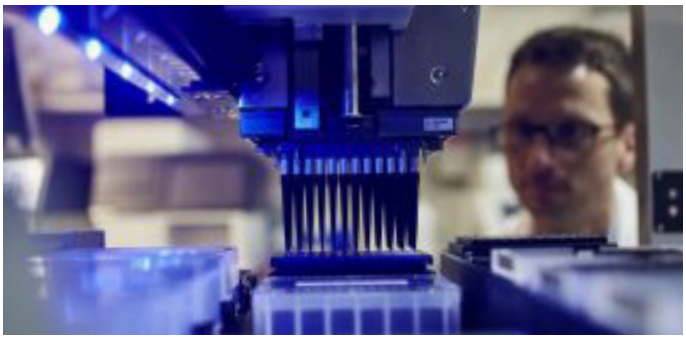
omegabiotek.com

Simplifying Nucleic Acid Purification—
Powered by Omega bio-tek Chemistry.
Delivered Through Automation.

Table of Contents

Experts in High-Throughput DNA & RNA Purification

Our 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.

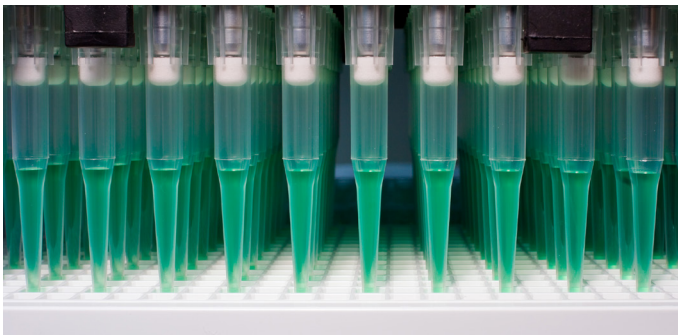


Application Support

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 a wide array of open-ended platforms. 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 the reagents needed to fully automate 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.

Services and Support Provided for a Variety of Automated Platforms

Liquid Handler/Magnetic Processors	Consultation	Pre-defined Scripts*	Custom Scripting	Customer Sample Extraction
MagBinder® Fit24	●	●	●	●
Dynamic Devices Lynx®	●	●	●	●
Hamilton Microlab® STAR™ Line	●	●	●	●
Hamilton Microlab® STAR V	●		●	
Hamilton Microlab® VANTAGE	●		●	
Hamilton Microlab® Prep	●	●	●	●
Hamilton NIMBUS™ Presto	●	●	●	●
Hamilton Microlab® NIMBUS™ 96	●	●	●	
Tecan Fluent® Automation Workstation	●	●	●	●
Tecan EVO®	●			
Beckman Coulter Biomek® iSeries	●			
Beckman Coulter Biomek® FX	●			
Beckman Coulter Biomek® NX	●			
Opentron OT-2	●			
Opentron Flex	●			
Eppendorf EpMotion®	●			
Agilent Bravo Automated Liquid Handling Platform	●	●	●	
Thermo Scientific™ KingFisher™ Apex	●	●	●	
Thermo Scientific™ KingFisher™ Flex	●	●	●	●
Thermo Scientific™ KingFisher™ DUO	●	●	●	●
Thermo KingFisher™ 96	●	●	●	
QIAGEN BioSprint® 96	●	●	●	
Applied Biosystem MagMAX™ 96	●	●	●	
Accuris Instruments IsoPure™ 96	●	●		
Accuris Instruments IsoPure™ Mini	●			

* Pre-defined scripts are only available for certain products and applications.
For further information, please contact us at **automation@omegabiotek.com**.
Visit www.omegabiotek.com/high-throughput for more information.

Custom Solutions

Build Your Automated Nucleic Acid Purification Workflow

Our in-house team of automation specialists, scientists, and manufacturing experts work with you to design, evaluate, and implement your automated workflows. Our team helps you achieve your throughput requirements, optimize tip usage, and select the buffer system and plasticware to develop your desired workflow on your liquid handlers and magnetic processors.

Consultation

Our automation specialists guide you through your options and work with you to develop a solution that fits your needs. Your automation specialist will listen to your needs and work with you to define and implement what success means to you.

Evaluation

Send your samples to us. Our team will run your samples on our automated platforms as a proof of concept. Samples will be returned to you for further downstream analysis.

Implementation

Our automation specialists develop your automation scripts, existing scripts and expertise developed in more than 25 years of nucleic acid purification. We are available virtually or at your facility to make sure your workflow implementation is successful.

Customization

As the manufacturer of all our kits, we can develop customized solutions to meet your labeling requirements, lot requirements, bottle volumes, and packaging configurations ensuring regulatory compliance, reducing waste from excess components, and optimizing the economies of your solution.

Clinical Diagnostic Solutions

We are committed to quality. Omega Bio-tek is ISO 9001:2015 and ISO 13485:2016 certified by NSF-ISR. We ensure that all products are properly assembled, tested, recorded, stored, and shipped. We perform rigorous quality checks of our products and thoroughly train our employees to ensure compliance. We also have several quality control steps within our processes to ensure reliability in performance and consistency in product quality.

NSF
NSF-ISR
Registered to ISO 9001 and ISO 13485

Lot Traceability

Our quality system allows for complete traceability from the incoming chemicals from our vendors all the way to Omega Bio-tek's customers' orders fulfillment.. This allows us to know every buffer, component, and even every chemical that is used within our products.

Quality Control

All Omega Bio-tek products have rigorous standards that must be met prior to leaving our door. Each product is checked multiple times in the production process to ensure proper function and packaging. Most of our products are quality controlled using similar methods to which you would be using in the lab. Are you performing qPCR from extracted plant DNA in your laboratory? Before releasing the product, we test the E.Z.N.A.® Plant DNA Kit components by extracting genomic DNA from plants and performing qPCR and gel electrophoresis.

Process Controls

All equipment used in our manufacturing process must be in calibration prior to use and there is full traceability between the finished product and all the equipment used during its manufacture. Employees are trained, and competency assessed to ensure that their work is consistently completed in accordance with standard operating procedures. Our quality system ensures that changes made to the system are thoroughly validated prior to being implemented.

CE-IVD Certified Products

CE
IVD

On May 26, 2022, In Vitro Diagnostic Regulation (IVDR 2017/746) became legally binding and requires that products used by laboratories doing genetic testing be either annually certified by the laboratory or be a certified IVDR product (CE-IVD marked). As an ISO 13485:2016 certified manufacturer of nucleic acid purification kits, Omega Bio-tek meets the requirements required to deliver CE-IVD marked products.

Receiving IVDR certification is proof of compliance with current regulations and the standards that go with them. As the manufacturer of a and takes actions to improve the products to ensure that they are safe and effective.

MagBinder® Fit^{24} Nucleic Acid Purification System

Automate Your Way: Turnkey or Customizable Solutions

CE IVD AVAILABLE

REQUEST A DEMO

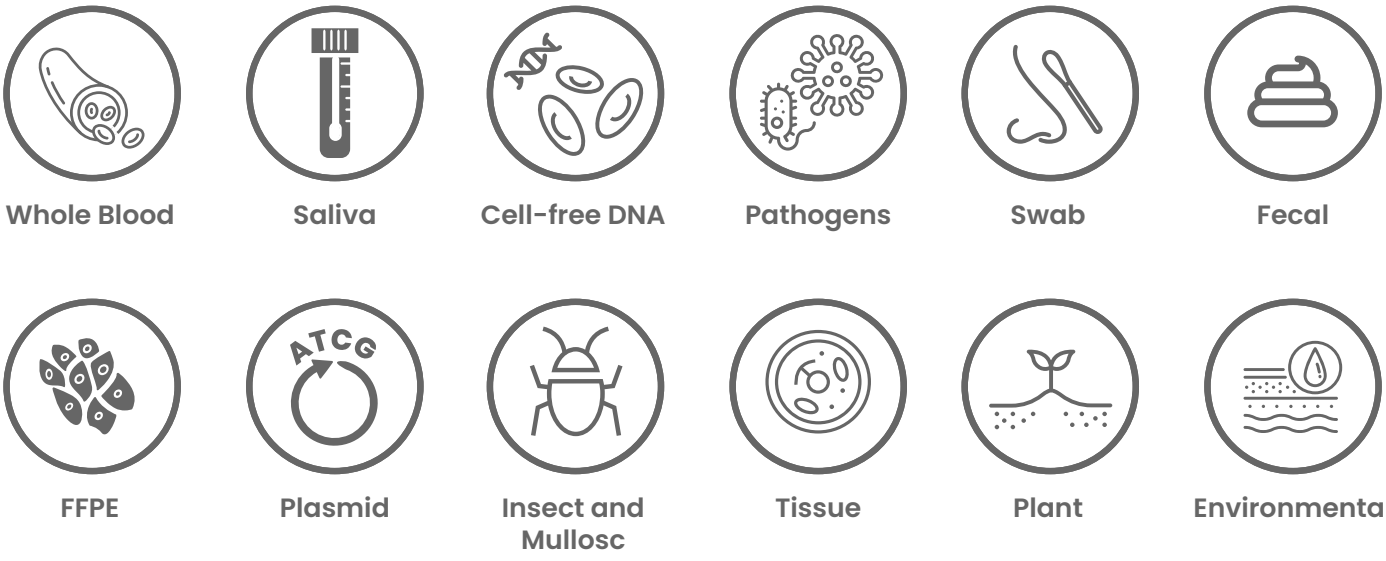
Elevate your laboratory experience with the MagBinder® Fit^{24} Nucleic Acid Purification System. Efficiency, affordability, precision, and reliability, all in one powerful instrument. Order yours now and unlock the future of nucleic acid purification!

- Flexible purification of 1 to 24 high or low volume samples
- Easy-to-use with programmable interface
- Process a wide range of sample types using any Mag-Bind® Kit
- Faster setup using pre-filled MB Fit24™ cartridges
- CE-IVD system available for approved countries

Research and IVD Ready

The MagBinder® Fit^{24} is not just an instrument, it is your solution to more efficient, automated workflows, specifically designed for nucleic acid purification for research applications, and in countries that accept CE-IVD, in vitro diagnostic applications. Tailored for use in laboratories that cannot justify a high-throughput solution, it brings efficiency to your research protocols.

Process a variety of Sample types



Turnkey Solution

Designed to work seamlessly with both Omega Bio-tek Mag-Bind kits and specially designed MB Fit24™cartridges complete with preloaded protocols. Running these protocols is a breeze. Have any questions about instrument protocols? Reach out to an Omega Bio-tek application specialist for support.

Mag-Bind® Kit Protocols

PROTOCOLS ARE AVAILABLE FOR ALL OUR MAG-BIND® KITS ON REQUEST. *Please reach out to an Omega Bio-tek Field Applications Scientist for more information:* ***automation@omegabiotek.com***

The following Mag-Bind® protocols have been optimized for use on the MagBinder® Fit²⁴.

MagBinder® Fit²⁴ Mag-Bind® Protocols						
Kit	**Input Volume**	**Throughput**	**Offline Time**	**Online Time**	**Elution Volume**	**Note**
Mag-Bind® Blood DNA HV Kit (M3292)	2 mL Blood	1-24 Samples	~35 Minutes	140 Minutes	400 µL	CE-IVD Kit Available
Mag-Bind® cfDNA Kit (M3298)	4 mL Plasma or Serum	1-24 Samples	~40 Minutes	53 Minutes	100 µL	CE-IVD Kit Available
Mag-Bind® Blood & Tissue DNA HDQ 96 Kit (M6399)	250 µL Blood, 500 µL Saliva, 10 mg Tissue, 1 x 10^6 Cells, Buccal Swabs	1-24 Samples	Blood, Saliva, Cells, Swabs: ~30 Minutes Tissue: ~1-3 Hours	43 Minutes	100 µL	CE-IVD Kit Available
Mag-Bind® FFPE DNA/RNA Kit (M6955)	1-3, 10 µm FFPE tissue slices	1-24 Samples	~2 Hrs 15 Min	DNA: 36 Minutes	100 µL	
				RNA: 59 Minutes	100 µL	1 Pause Step
Mag-Bind® Total RNA Xpress Kit (M6742)	10 mg Tissue, 1 x 10^6 Cells	1-24 Samples	~20 Minutes	95 Minutes		
Mag-Bind® Universal Pathogen 96 Kit (M4029/M4030)	250 µL Serum, Stool, or Urine	1-24 Samples	~45 Minutes	27 Minutes	100 µL	Bead beat samples using Disruptor Tubes or Plate
Mag-Bind® Total RNA 96 Kit (M6731)	10 mg Tissue, 1 x 10^6 Cells	1-24 Samples	~40 Minutes	84 Minutes	100 µL	1 Pause Step
Mag-Bind® Endo-free Plasmid Mini Kit (M1261)	1.5 mL LB or TB Culture	1-24 Samples	~25 Minutes	54 Minutes	100 µL	Lysate clearance via centrifugation
Mag-Bind® Endo-free Plasmid Midi Kit (M1272)	50 mL LB or 10 mL TB Culture	1-24 Samples	~40 Minutes	64 Minutes	500 µL	Lysate clearance via magnetic beads, centrifugation, or syringe
	5 mL LB or TB Culture	1-24 Samples	~35 Minutes	62 Minutes	100 µL	

Mag-Bind® cfDNA Kit

REQUEST A SAMPLE

CE IVD AVAILABLE

Rapid & efficient isolation of circulating, cell-free DNA from 0.5-10 mL plasma or serum samples

- Isolate cell-free (cfDNA) from up to 10mL Plasma or Serum
- Automation-ready scripts processes 96 (1 mL) samples in 2 hours
- High-binding magnetic beads allows 10 mL Serum or Plasma can be eluted to 50 µL

The Mag-Bind® cfDNA Kit is designed for the rapid and efficient isolation of circulating cell-free DNA from up to 10 mL plasma or serum samples. The Mag-Bind cfDNA Kit can be processed manually or using automated platforms. The procedure eliminates the need for funnels and vacuum steps, providing hands-free operation in automated protocols.

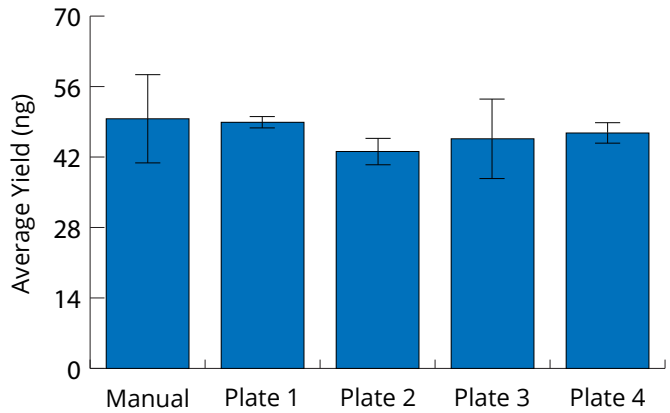
The unique formulation of the lysis and binding buffers allows complete automation of the extraction process, for up to 10 mL sample volumes, with minimal user intervention. The magnetic properties of the Mag-Bind Particles CH enable fast magnetic separation, even when using large volumes. The high binding capacity of the beads allows for lower volume of magnetic particles needed, thus reducing the final elution volume required. 10 mL of serum or plasma can be eluted in as low as 50 µL.

The system combines the reversible nucleic acid-binding properties of Mag-Bind paramagnetic particles with a unique binding system that targets smaller DNA fragments (150-400 bp) and minimizes the binding of larger fragments, such as gDNA.

Features	Specifications
Starting material	Plasma/serum
Starting Amount	500-10,000 µL
Elution Volume	50 µL
Processing Mode	Manual or Automated
Format	Tube, 24-well, 96-well
Nucleic Acid Binding Technology	Magnetic Beads

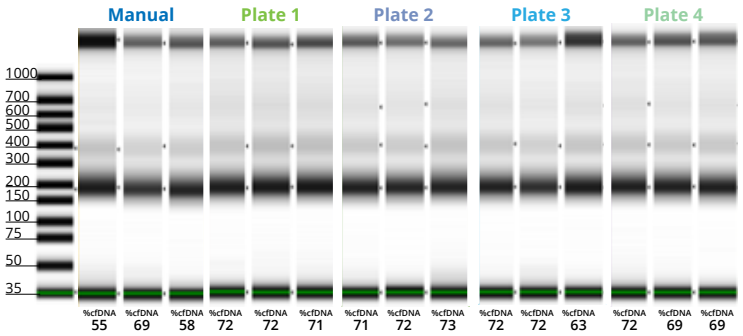
Product	Preps	Cat. No.
Mag-Bind® cfDNA Kit	5	M3298-00
	50	M3298-01
	200	M3298-02

Consistent Yields of cfDNA Extracted using the Hamilton Microlab® STAR™



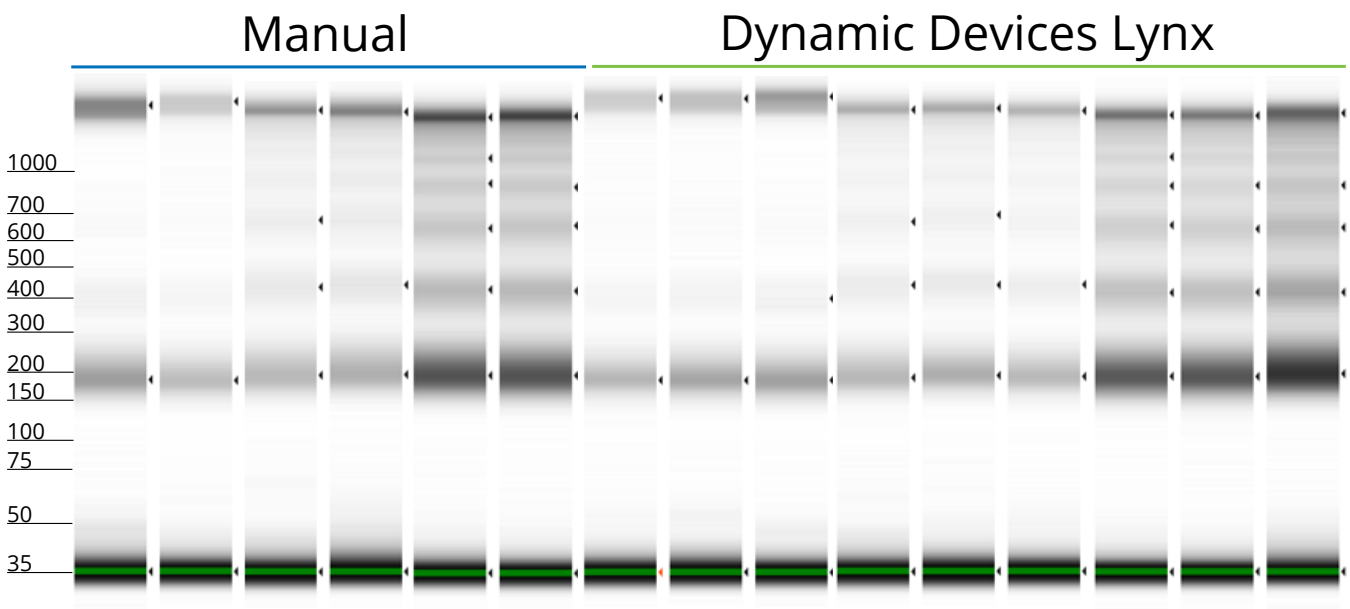
cfDNA was extracted from 4 mL aliquots of human-derived plasma using the Mag-Bind® cfDNA Kit. Purification was automated across 4 plates on the Hamilton Microlab® STAR™, as well as performed manually following manufacturer's instructions. Yield values were quantified using Agilent's TapeStation® 4150 and showed comparable yields across plates.

TapeStation Analysis of cfDNA Extracted with the Hamilton Microlab® STAR™



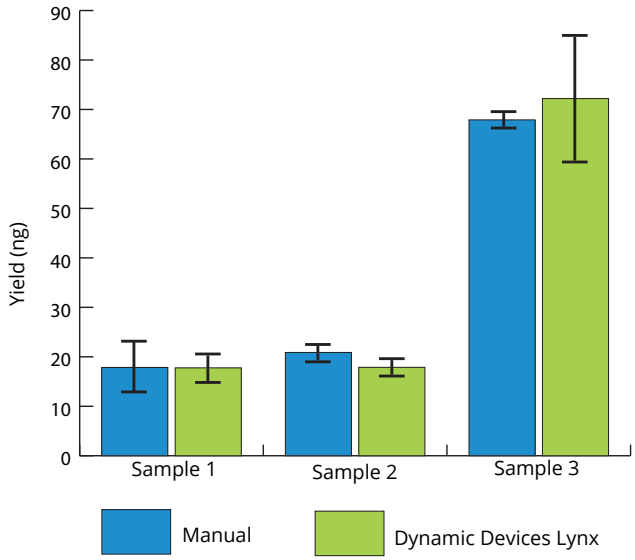
cfDNA was extracted from 4 mL aliquots of human-derived plasma using the Mag-Bind® cfDNA Kit. Purification was automated across 4 plates on the Hamilton Microlab® STAR™, as well as performed manually following manufacturer's instructions. TapeStation Analysis of extracted cfDNA illustrates consistent integrity across plates.

TapeStation Analysis of cfDNA Extracted Using the Dynamic Devices Lynx®



cfDNA was extracted from 10 mL plasma using the Dynamic Devices' Lynx®, as well as manual methods. TapeStation analysis shows comparable integrity between manual and automated extraction methods. .

Comparable Yields of cfDNA Extracted with the Dynamic Devices Lynx®



cfDNA was extracted from 10 mL plasma using the Dynamic Devices' Lynx®, as well as manual methods. Yield values were comparable between extraction methods.

Comparable Ct Values Between cfDNA Extracted with the Dynamic Devices Lynx

Sample	Manual			Dynamic Devices Lynx		
	2 µL	6 µL	ΔCt	2 µL	6 µL	ΔCt
1	29.12 ± 0.33	28.27 ±0.38	-0.85	29.28± 0.48	27.73± 0.50	-1.55
2	29.51± 0.28	28.27± 0.10	-1.24	29.64± 0.17	28.22± 0.16	-1.42
3	28.39± 0.30	27.73± 0.37	-0.67	28.52± 0.25	26.96± 0.14	-1.56

Mag-Bind® Blood & Tissue DNA HDQ 96 Kit

High-throughput DNA isolation from blood, buccal swabs, saliva & tissue using magnetic beads

REQUEST A SAMPLE

CE IVD AVAILABLE

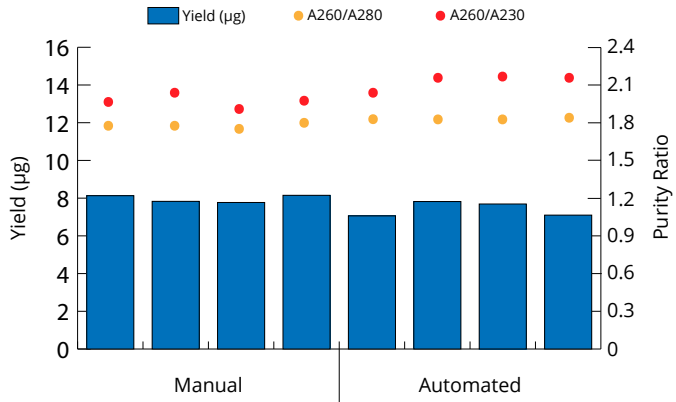
- DNA Extraction from Blood, Saliva, Buffy Coat, Buccal Swabs, Cultured Cells, and Tissues
- Automation Friendly Formats allows for up to 384 samples to be processed in 2.5 hours
- High Quality DNA is ready for NGS, Microarrays, and qPCR

The Mag-Bind® Blood & Tissue DNA HDQ 96 Kit is designed for the rapid and reliable isolation of high-quality genomic DNA from 100-250 µL of blood samples, 500 µL saliva, swabs, mouse tails, dried blood spots, tissues, or 5 x 10^6 cultured cells. Mag-Bind® Particles HDQ provide quick magnetic response times, thereby reducing overall processing time. This system combines the reversible nucleic acid-binding properties of Mag-Bind® paramagnetic particles with the proven efficiency of Omega Bio-tek's blood and tissue DNA isolation system to provide a rapid and robust method for the isolation of DNA from a variety of biological samples. The system yields high-quality DNA that is suitable for direct use in most downstream applications such as amplification, NGS, and enzymatic reactions.

Features	Specifications
Starting material	Blood samples, saliva, swabs, mouse tails, dried blood spots, cultured cells
Starting Amount	100-250 µL blood samples, 500 µL saliva, swabs, mouse tails, dried blood spots or 5 x 10^6 cultured cells
Elution Volume	50-200 µL
Processing Mode	Manual (Centrifugation or Vacuum)
Throughput	8-384
Nucleic Acid Binding Technology	Magnetic Beads
Downstream Application	NGS, qPCR, microarray

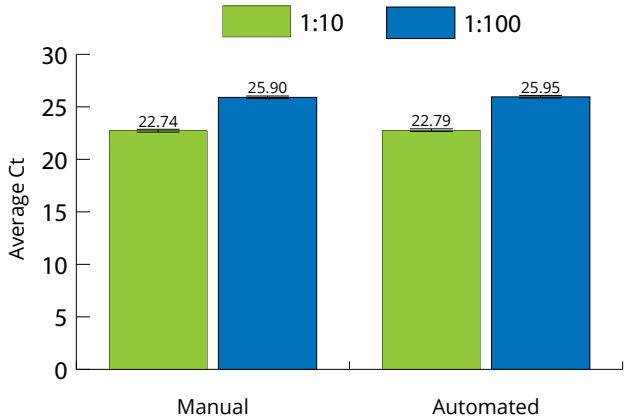
Product	Preps	Cat. No.
Mag-Bind® Blood & Tissue DNA HDQ 96 Kit	1 x 96	M6399-00
	4 x 96	M6399-01

High-Quality Genomic DNA Extracted Using the Hamilton Microlab® STAR™



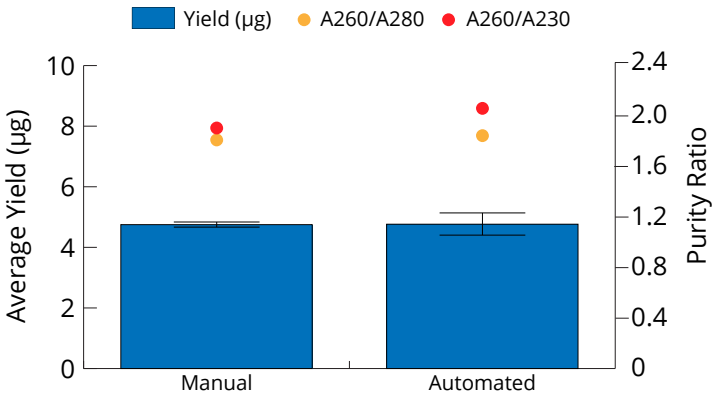
Genomic DNA was extracted from 100 µL pooled saliva both manually, following manufacturer's instructions, as well as automated using the Mag-Bind® Blood & Tissue HDQ 96 Kit automated on the Hamilton Microlab® STAR™. Yield and quality were analyzed via Thermo Scientific's NanoDrop® 2000c. The results indicate comparable yield and purity ratios between manual and automated extraction methods.

Inhibitor-Free Genomic DNA Extracted Using the Hamilton Microlab® STAR™



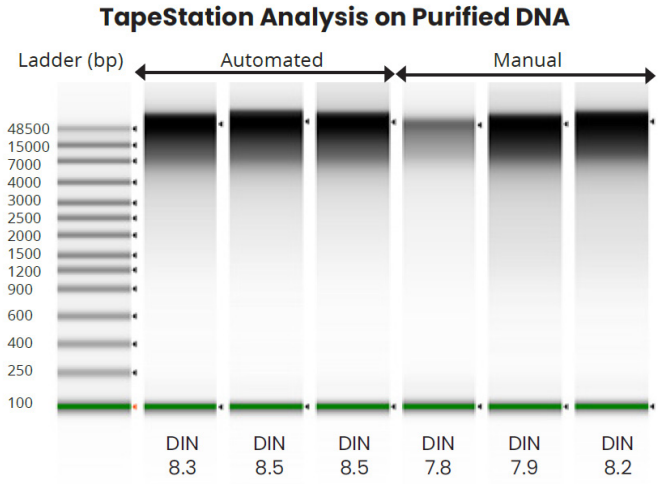
Genomic DNA was extracted from 100 µL pooled saliva both manually, following manufacturer's instructions, as well as automated using the Mag-Bind® Blood & Tissue HDQ 96 Kit automated on the Hamilton Microlab® STAR™. Purified DNA was then subjected to qPCR analysis using 10-fold and 100-fold dilutions. The average Ct values differed by ~3.3 cycles per 10-fold dilutions, indicating inhibitor-free DNA.

Comparable Yields of Genomic DNA Extracted Using the Dynamic Devices Lynx



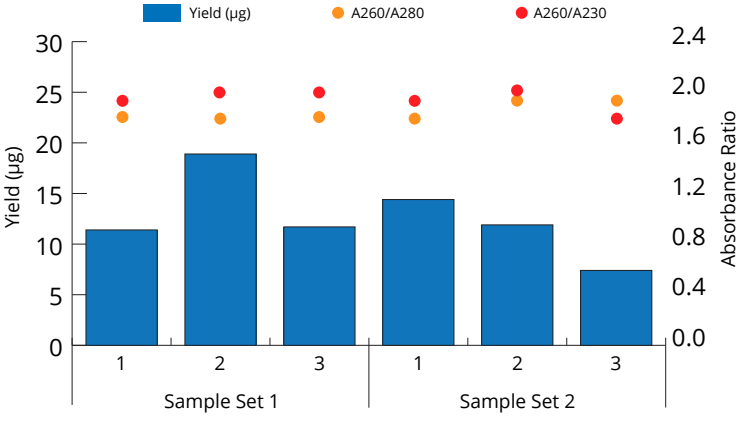
Genomic DNA was extracted from 250 µL of whole blood using the Mag-Bind® Blood & Tissue DNA HDQ 96 Kit both manually, following manufacturer's instructions, and automated on the Dynamic Devices Lynx. DNA yield and quality were quantified via Thermo Scientific's NanoDrop® 2000c. The average yields of DNA were comparable between manual and automated methods, while the purity ratios improved for the automated

Unfragmented Genomic DNA Extracted Using the Tecan Fluent 780



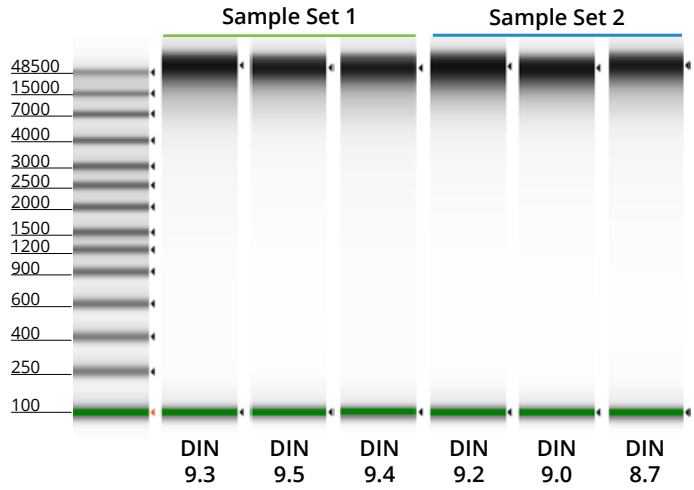
TapeStation analysis performed on DNA extracted from 250 µL blood following manufacturer's protocol automated on the Tecan Fluent 780 workstation. The integrity of the extracted DNA was comparable between methods.

High-Yielding DNA from Buffy Coat Using the MagBinder® Fit²⁴



Genomic DNA was extracted from 100 µL buffy coat using the Mag-Bind® Blood & Tissue DNA HDQ 96 Kit automated on the MagBinder® Fit²⁴. Yield and quality were analyzed via Thermo Scientific's NanoDrop® 2000c. The results indicate high-yielding DNA with excellent purity ratios

Unfragmented, High Integrity DNA from Buffy Coat Using the MagBinder® Fit²⁴



TapeStation analysis of purified DNA from 100 µL buffy coat showing high molecular weight DNA > 60 kb and high DIN scores (> 9.2), indicating high integrity, intact DNA extracted using the Mag-Bind® Blood & Tissue DNA HDQ 96 Kit automated on the MagBinder Fit²⁴.

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

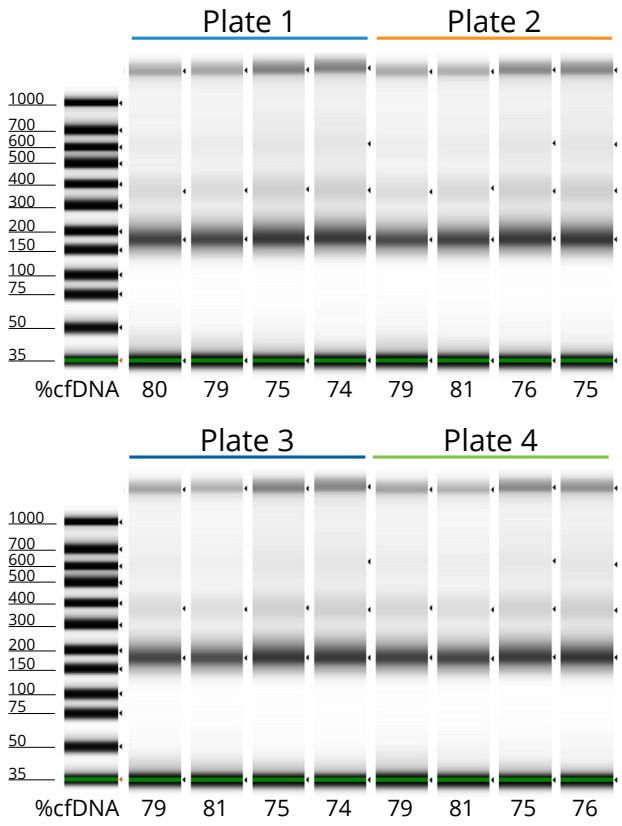
- 96 (4 plates) 4 mL samples eluted in as little as 50 µL in ~3.5 hours
- Same proven chemistry as our Mag-Bind® cfDNA Kit

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

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, stabilized saliva, buffy coat & cultured cells 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

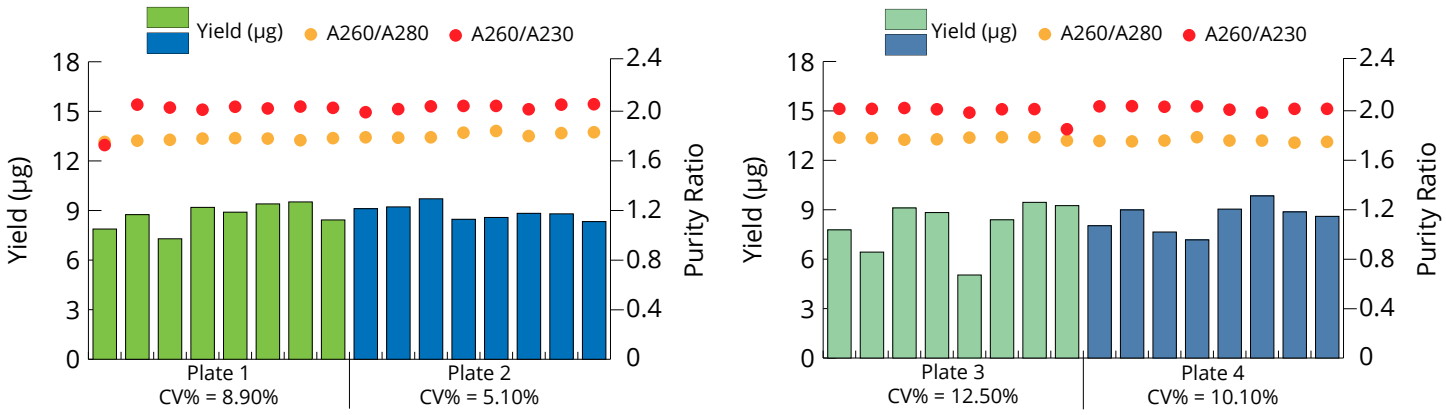
Purify

- 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

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 Saliva



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

Mag-Bind® FFPE DNA/RNA 96 Kit

REQUEST A SAMPLE

Sequential isolation of both DNA and RNA from the same FFPE sample using magnetic beads

- New ***improved*** kit with ***faster*** protocol
- DNA and RNA extraction in separate eluates from the same FFPE sample without sample splitting
- Xylene-free deparaffinization
- Magnetic bead-based purification
- Automation friendly

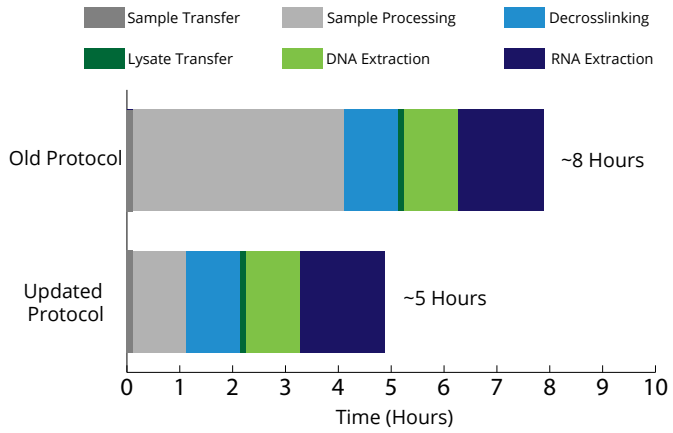
Mag-Bind FFPE DNA/RNA 96 Kit is designed for the sequential isolation of DNA and RNA from the same formalin-fixed, paraffin-embedded (FFPE) tissue sample. The protocol utilizes non-toxic mineral oil in combination with heat for efficient deparaffinization of the FFPE sample eliminating the use of hazardous xylene. The specially formulated buffers reverse cross-linking without the need for overnight digestion resulting in high-yielding, high-quality nucleic acids. The isolation protocol allows for extraction of both DNA and RNA in separate eluates from the same sample for a comprehensive analysis of both the nucleic acids. Purified DNA and RNA are suitable for a variety of downstream applications including SNP analysis, sequencing, and genotyping.

The Mag-Bind® system is fully automatable on Hamilton Microlab® STAR™, Tecan Freedom Evo®, Thermo Fisher Scientific KingFisher® Flex Purification System, and other open-ended workstations.

Features	Specifications
Starting material	FFPE tissue
Starting Amount	< 3 FFPE sections of 10 µm thickness each
Elution Volume	50-200 µL
Processing Mode	Manual or Automated
Throughput	Up to 96
Nucleic Acid Binding Technology	Magnetic Beads
Downstream Application	NGS, PCR, qPCR, real-time RT-PCR, microarray, microRNA analysis

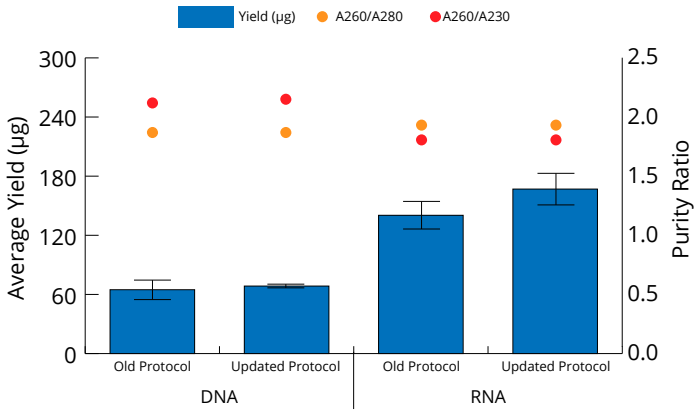
Product	Preps	Cat. No.
Mag-Bind® FFPE DNA/RNA 96 Kit	1x96	M6955-00
	4x96	M6955-01

Decreased Incubation Time Compared to Previous Protocol



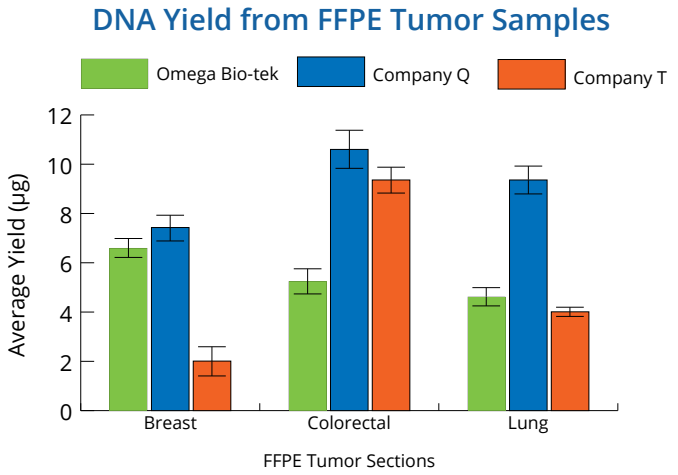
The updated protocol significantly reduces the total time required to extract both DNA and RNA from 7 hours and 53 minutes to 4 hours and 53 minutes by decreasing the upfront incubation time.

Comparable DNA and RNA Yields and Quantities Between New and Updated Protocols

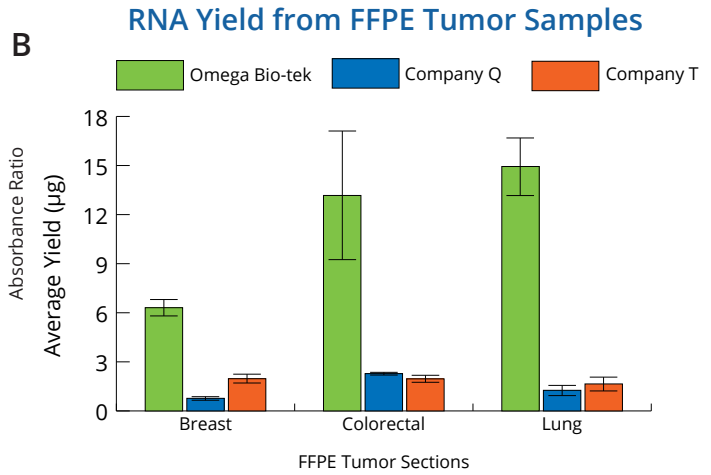


DNA and RNA were extracted from 3 x 10 µm FFPE slices of normal human liver using both the old and updated extraction protocol for the Mag-Bind® FFPE DNA/RNA Kit. The average yields and purities were comparable between extraction protocols.

A

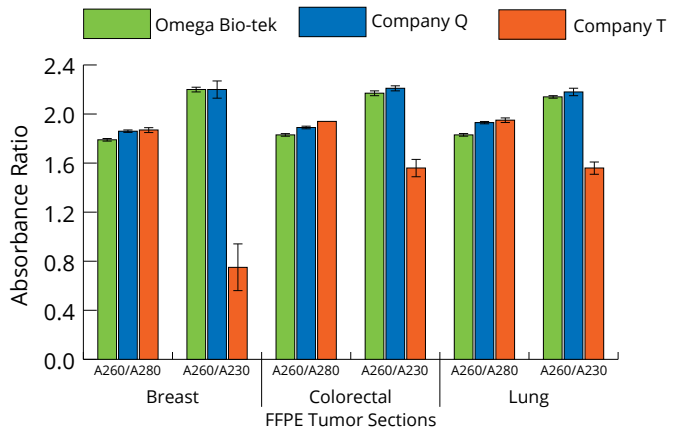


B

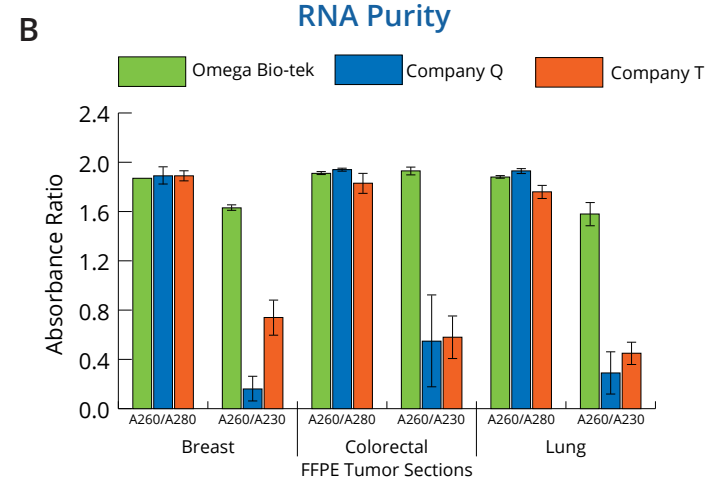


Genomic DNA and RNA were sequentially isolated from 3 x 10 µm sections of the same FFPE tumor tissue block (n=5) using Omega Bio-tek's Mag-Bind® FFPE DNA/RNA 96 Kit and comparable kits from Company T and Company Q following manufacturer's recommended protocols. Purified DNA and RNA were qantified using TapeStation Analysis. DNA yield (A) was comparable or better vs Company T and comarable for 1 sample vs Company Q. RNA recovery (B) was significantly higher with Omega Bio-tek's kit for all sample types tested compared to kits from Company Q and Company T.

A

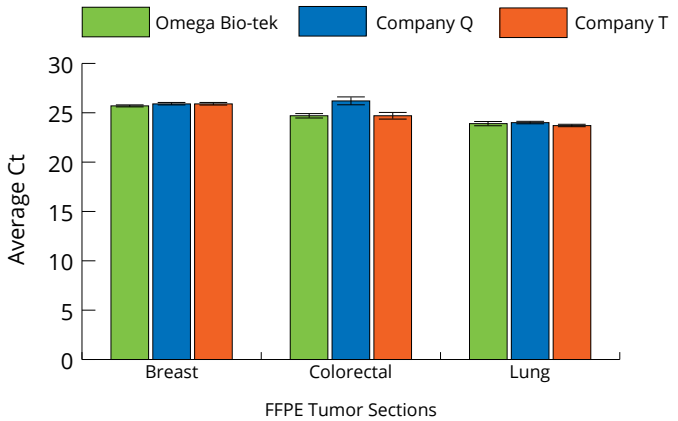


B

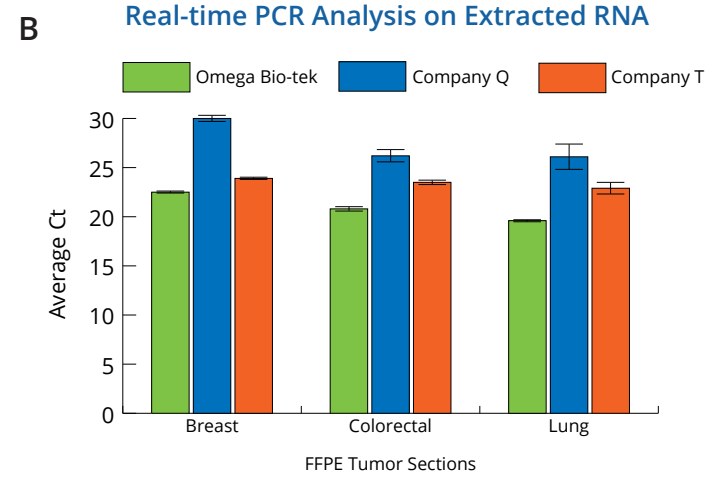


Purity of DNA (A) and RNA (B) isolated using different manufacturer's kits was analyzed through spectrophotometry focusing on A260/A280 and A260/A230 ratios.

A



B



Average Ct values obtained on 10X dilutions of DNA (A) and RNA (B) purified from 3 x 10 µm sections of FFPE tumor tissue (n=5). Ct values were comparable for DNA extracted using all three kits. Ct values for 10-fold dilutions of RNA extracted using Omega Bio-tek's kit were significantly lower than those of Company Q's and Company T's, corroborating higher RNA yields obtained using Omega Bio-tek's Mag-Bind® FFPE DNA/RNA 96 Kit.

Mag-Bind® DNA/RNA Kit

REQUEST A SAMPLE

High-throughput DNA & RNA isolation from cultured cells & tissue using magnetic beads

- DNA & RNA purification into two fractions
- High-quality DNA & RNA with high DIN and RIN scores
- Automatable on open liquid handlers and most magnetic processors

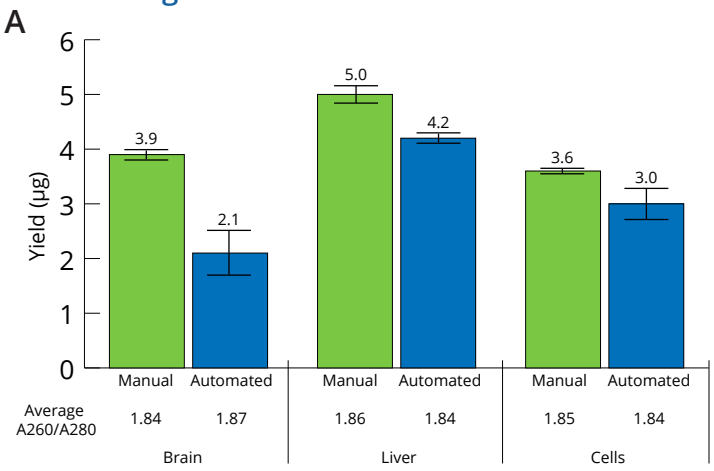
The Mag-Bind® DNA/RNA Kit is designed for simultaneous purification of DNA and RNA up to 1 x 10^6 cells and up to 10 mg tissue samples into two separate eluates from the same sample. The Kit is also capable of separate purification of miRNA fraction using an optional protocol. Extraction of DNA and RNA allows for comprehensive molecular analysis from the same sample source since there is no need for sample splitting.

The protocol uses an innovative Lysis/Binding master mix that conveniently lyses the sample first and upon addition of Mag-Bind® Particles CH binds the DNA to the particles. The RNA-containing supernatant is saved, and an RNA binding step is completed in the presence of binding buffer and isopropanol to bind RNA (>200 nt) to the second set of Mag-Bind® Particles CH. This results in separation of DNA and RNA into two fractions. The RNA-fraction is further treated with DNase I enzyme to digest the residual DNA and rebound to the same set of Mag-Bind® Particles CH by adjusting the binding conditions. Mag-Bind® Particles CH bound to DNA and RNA are individually washed and nucleic acids are eluted in two different tubes/microplates for further analyses. The purified DNA and RNA is ready for use in a wide range of downstream applications such as PCR and NGS.

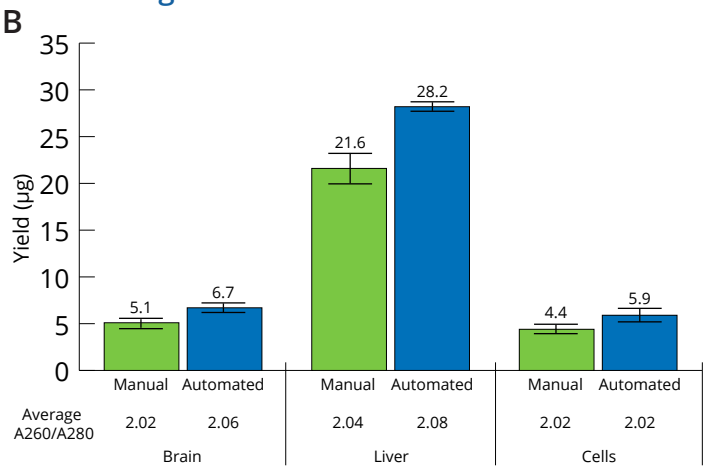
Features	Specifications
Starting material	Cells, Fresh Frozen Tissue,
Starting Amount	1 x 10^6 cells, 5-10 mg tissue
Elution Volume	50-100 µL for DNA, 100 µL for RNA
Processing Mode	Manual or Automated
Throughput	96
Nucleic Acid Binding Technology	Magnetic Beads
Downstream Application	NGS, qPCR, RT-PCR

Product	Preps	Cat. No.
Mag-Bind® DNA/RNA Kit	1 x 96	M6932-00
	4 x 96	M6932-01

DNA Yield and Quality from Brain, Liver, and Cells Using the Hamilton Microlab® STAR™

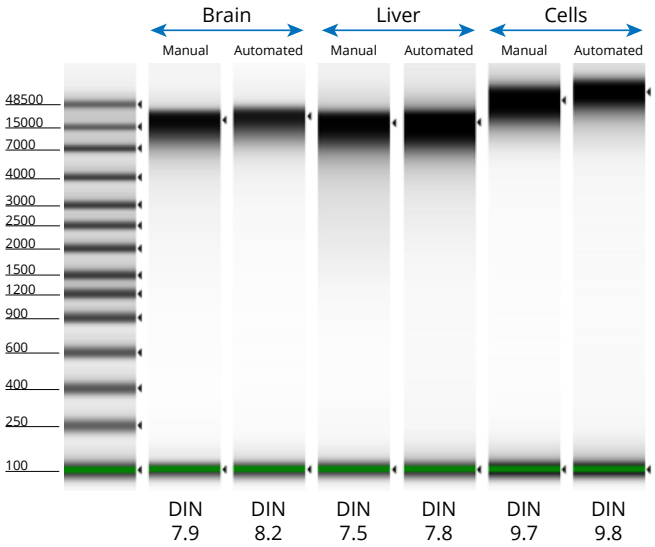


RNA Yield and Quality from Brain, Liver, and Cells Using the Hamilton Microlab® STAR™

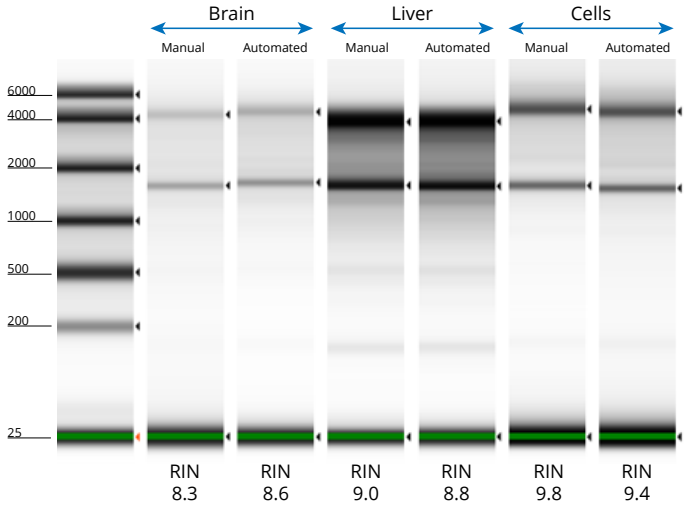


DNA (**A**) and RNA (**B**) were extracted from 10 mg brain and liver tissue, as well as 1 x 10^6 cells, both manually and using the Hamilton Microlab® STAR™. The average yields and A260/A280 ratios of RNA were comparable between extraction methods, regardless of sample type..

TapeStation Analysis of DNA from Brain, Liver, and Cells Using the Hamilton Microlab® STAR™

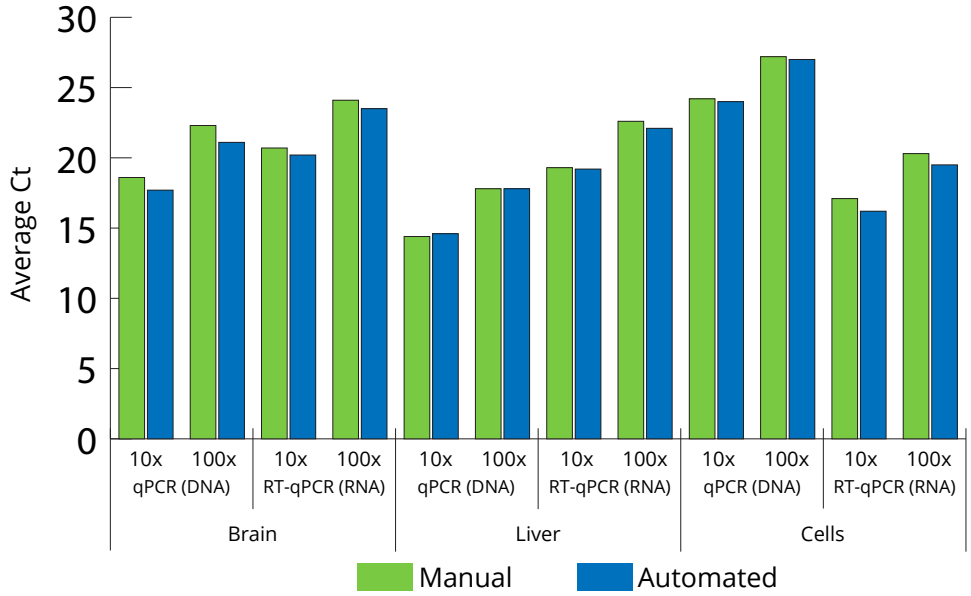


TapeStation Analysis of RNA from Brain, Liver, and Cells Using the Hamilton Microlab® STAR™



DNA (**A**) and RNA (**B**) were extracted from 10 mg brain and liver tissue, as well as 1 x 10^6 cells, both manually and using the Hamilton Microlab® STAR™. The Mag-Bind® DNA/RNA Kit extracted DNA > 48 kb from cultured cell samples. RNA extracted from cultured cells was of high integrity.

qPCR and RT-qPCR Analyses of DNA and RNA from Brain, Liver, and Cells Extracted Using the Hamilton Microlab® STAR™



DNA (**A**) and RNA (**B**) were extracted from 10 mg brain and liver tissue, as well as 1 x 10^6 cells, both manually and using the Hamilton Microlab® STAR™. Average ΔCts between 10-fold and 100-fold dilutions were comparable between extraction methods.

Mag-Bind® Universal Pathogen 96 Kit

REQUEST A SAMPLE

High-throughput DNA & viral RNA isolation from a variety of sample sources

- Ceramic Beads Pre-Aliquoted into 96-well format for sample homogenization
- Isolate Viral DNA and RNA
- Isolates Yeast, Fungal, Bacterial, and Viral DNA

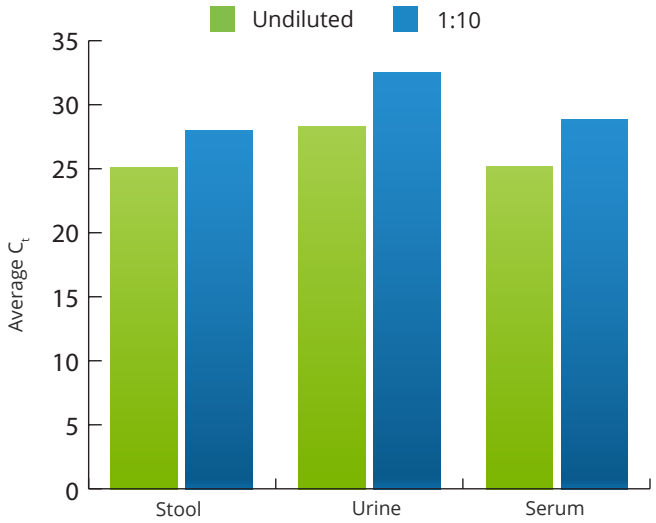
Mag-Bind® Universal Pathogen 96 Kit allows rapid and reliable isolation of high-quality host genomic DNA, gram-positive and -negative bacterial DNA, fungal spore DNA, and viral DNA and viral RNA from tissue, urine, serum, and fecal samples. The extraction system allows for automation after sample lysis via Hamilton Microlab® STAR™, Thermo Fisher Scientific KingFisher® Flex, Applied Biosystems' MagMAX® 96, QIAGEN BioSprint® 96, and other liquid handling instruments. Typical automated processing time is 1 hour for 96 samples.

This novel system combines the rapid magnetic response time of Mag-Bind® technology with the uniquely formulated RBB Buffer to eliminate the isolation of PCR-inhibiting compounds along with the nucleic acids of interest. No organic extractions are involved, reducing plastic waste and hands-on time, making it amenable for high-throughput applications. Purified DNA is suitable for a variety of applications including NGS, PCR, restriction digestion, etc.

Features	Specifications
Starting material	Plasma/serum, tissue, stool, urine
Starting Amount	250 µL plasma/serum/stool, 30 mg tissue
Elution Volume	50-100 µL
Processing Mode	Manual or Automated
Throughput	96
Nucleic Acid Binding Technology	Magnetic Beads
Downstream Application	NGS, qPCR, microarray

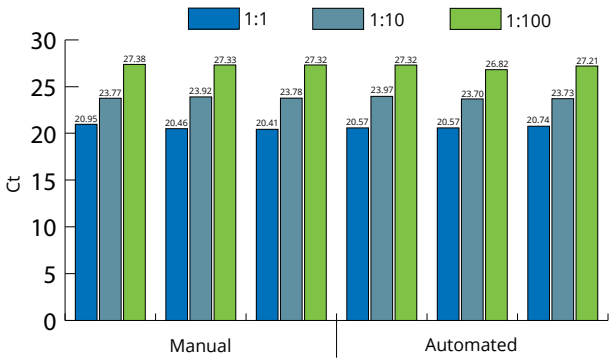
Product	Preps	Cat. No.
Mag-Bind® Universal Pathogen 96 Kit	1 x 96	M4029-00
	4 x 96	M4029-01

Viral RNA



Influenza A/B virus was spiked into corresponding sample types and isolated with the Mag-Bind® Universal Pathogen 96 Kit. Automated isolation was performed using the KingFisher™ Flex. 20 µL SYBR® qPCR were performed in triplicate on primers specific to the target organism. Average of triplicate data is shown.

Inhibitor-free Gram-Positive Bacterial DNA Isolation from Stool Samples



Gram Positive Bacteria *Bacillus subtilis* was spiked into 250 µL stool samples and isolated using the Mag-Bind® Universal Pathogen 96 Kit. Automated isolation was performed using the Hamilton Firefly Nimbus® 96 and compared to manual isolation methods. qPCR was performed on undiluted, 10-fold and 100-fold dilutions. The Ct across dilutions was ~3.3 for both manual and automated methods, indicating minimal inhibition.

Mag-Bind® Viral DNA/RNA 96 Kit

REQUEST A SAMPLE

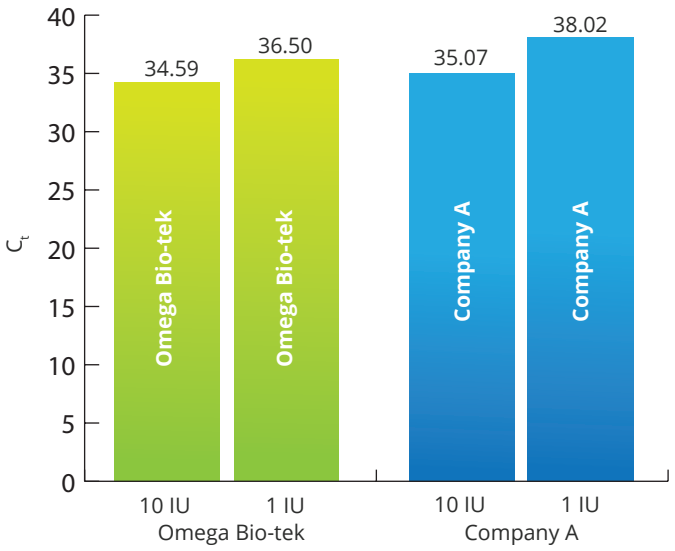
Isolate viral DNA & RNA from whole blood, serum, plasma & bodily fluids using magnetic beads

The Mag-Bind® Viral DNA/RNA Kit is designed for rapid and reliable isolation of viral DNA and RNA from cell-free samples such as serum, plasma, cell culture supernatant and other biological samples such as swabs, aspirates, etc. The Mag-Bind® paramagnetic bead technology is optimized for the recovery of low viral titer and provides high quality viral DNA or RNA suitable for direct use in most downstream applications such as RT-PCR, PCR and other enzymatic reactions. The extraction methodology is easily adaptable to various automated systems and can be scaled up or down depending on the amount of starting material used. The kit is not designed to separate cellular DNA from viral nucleic acids and cellular nucleic acid will be co-purified if present.

Protocols are available for the following automated platforms:

- Hamilton Microlab® STAR
- Hamilton Microlab® NIMBUS
- KingFisher™, BioSprint®, and MagMAX® 96
- Adaptable to other liquid handling platforms

qPCR Comparison



HBV virus (in quantities of 10 and 1 infectious unit[s]) was spiked into 200 µL human serum. Viral nucleic acid was isolated with Omega Bio-tek's Mag-Bind® Viral DNA/RNA Kit and with a comparable kit from Company A according to recommended protocols. 5 µL of template was used for SYBR® Green-labeled qPCR reaction which was replicated 4 times. The resulting mean Ct values are shown in the above figure.

Manufacturer	Template (µL)	C_t
Omega Bio-tek	3	23.37
	0.3	26.72
	0.03	29.7
Company Q	3	23.36
	0.3	26.73
	0.03	29.7

Table 1. Nucleic acid was isolated from 200 µL of human whole blood with Omega Bio-tek's Mag-Bind® Viral DNA/RNA 96 Kit and a kit from Company A using the manufacturer's recommended protocols. The extractions were eluted in 100 µL. 3 concentrations of template were used as templates in a SYBR® Green labeled qPCR reaction. Each reaction was performed in quadruplicate and the mean C_t value is depicted in the above figure.

Some of the viruses* detected using our viral kits.

Influenza A	Porcine circovirus type 2 (PCV2)
Influenza B	Arboviruses
West Nile virus	Dengue virus
Middle East Respiratory Syndrome Coronavirus (MERS-CoV)	GB virus C
Zika virus (ZIKAV)	Bovine Viral Diarrhea Virus
SIV	Sheep pox virus
HIV	Murine norovirus 1
Influenza A (H1N1)	Canine distemper virus
Hepatitis A virus types 1 and 3	Rabies virus
Hepatitis B virus	Rotavirus
Hepatitis E	Coxsackievirus B3
Infectious Bronchitis virus	Coxsackievirus A6
Porcine reproductive and respiratory syndrome Virus (PRRSV)	Avian leukosis virus subgroup J
Insect-specific flaviviruses, mononegaviruses, and totiviruses	Avian Encephalomyelitis Virus
orf virus (ORFV)	Crimean-Congo hemorrhagic fever virus
Marek's disease virus	

Product	Preps	Cat. No.
Mag-Bind® Viral DNA/RNA 96 Kit	1x96	M6246-01
	4x96	M6246-02
	12x96	M6246-03

Mag-Bind® Viral RNA Xpress Kit

High-throughput isolation of viral RNA from nasopharyngeal swab specimens

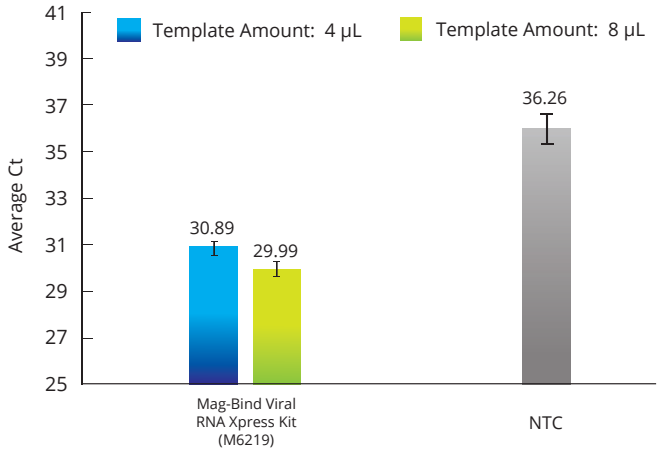
REQUEST A SAMPLE

Benefits over Mag-Bind® Viral DNA/RNA 96 Kit

- Improved downstream performance
- Faster protocol
- No Proteinase K step
- Smaller packaging with double the number of preps for reduced shipping costs
- 10% savings on cost per prep

Mag-Bind Viral RNA Xpress Kit follows a magnetic bead-based approach for the rapid and reliable isolation of viral RNA from nasopharyngeal (NP) swab specimens that are dry or in viral transport media (VTM). The extraction methodology is easily adaptable to various sample types, automated systems and can also be scaled up or down depending on the amount of starting sample amount used. The kit utilizes the proven Mag-Bind® technology that enables purification of high-quality nucleic acids that are free of proteins, nucleases, and other impurities. The purified nucleic acids are ready for direct use in downstream applications such as qPCR, RT-qPCR and more.

Detection of Synthetic SARS-CoV-2 Virus Control Following RT-qPCR



1×10^5 copies of synthetic SARS-CoV-2 was spiked into a 200 µL sample containing 2000 HEK293 cells. Viral nucleic acids were extracted following the recommended protocol from Mag-Bind® Viral RNA Xpress Kit (M6219). 4 and 8 µL of template was used in a 20 µL SYBR Green-labeled RT-qPCR reaction. The average Ct values obtained are shown on the left. The Ct difference between the two template amounts is ~1 indicating no qPCR inhibition.

Product	Preps	Cat. No.
Mag-Bind® Viral RNA Xpress Kit	24x96	M6219-2304

Features	Specifications
Starting material	Saliva; NP swabs in UTM/VTM as well as dry
Starting Amount	50 µL - 200 µL
Elution Volume	50-100 µL
Processing Mode	Manual or Automated
Throughput	8-96
Nucleic Acid Binding Technology	Magnetic Beads
Downstream Application	Amplification and other enzymatic reactions

Some of the viruses* detected using our viral kits.

Influenza A	Hepatitis E	Sheep pox virus
Influenza B	Infectious Bronchitis virus	Murine norovirus 1
West Nile virus	Porcine reproductive and respiratory syndrome Virus (PRRSV)	Canine distemper virus
Middle East Respiratory Syndrome Coronavirus (MERS-CoV)	Insectspecific flaviviruses, mononegaviruses, and totiviruses	Rabies virus
Zika virus (ZIKAV)	orf virus (ORFV)	Rotavirus
SIV	Porcine circovirus type 2 (PCV2)	Coxsackievirus B3
HIV	Arboviruses	Coxsackievirus A6
Influenza A (H1N1)	Dengue virus	Avian leukosis virus subgroup J
Hepatitis A virus types 1 and 3	GB virus C	Avian Encephalomyelitis Virus
Hepatitis B virus	Bovine Viral Diarrhea Virus (BVDV)	Crimean-Congo hemorrhagic fever virus
SARS-CoV-2		

*References available upon request

Mag-Bind® PX Blood RNA 96 Kit

REQUEST A SAMPLE

Fast & convenient RNA extraction solution for samples stored in PAXgene or Tempus tubes

- Isolate RNA from samples stabilized in PAXgene™ blood RNA tubes using magnetic beads

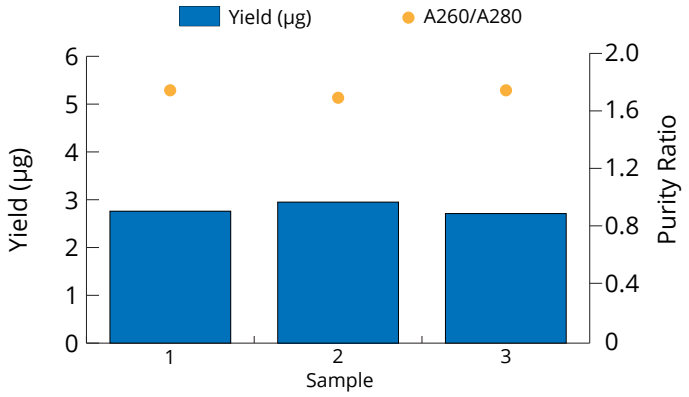
The Mag-Bind® PX Blood RNA 96 Kit provides a convenient and fast RNA extraction solution for samples stabilized in PAXgene blood RNA tubes or Applied Biosystems' Tempus™ blood RNA tubes. This system combines Mag-Bind® particles and HiBind® silica column technology for purification of total RNA from up to 2.5 mL preserved blood samples.

The blood sample is spun down and the crude RNA/DNA pellet is collected and washed. The pellet is then resuspended and digested with Proteinase K. The lysate is applied to a filter plate to remove genomic DNA. This procedure completely removes inhibitors and sample stabilization reagents to allow for reliable downstream analysis. High-quality purified RNA can be used for downstream applications such as qRT-PCR, RT-PCR, and microarray analysis.

Features	Specifications
Starting material	Blood in PAXgene RNA tube
Starting Amount	Up to 2.5 mL
Elution Volume	50-100 µL
Processing Mode	Manual or Automated
Throughput	96
Nucleic Acid Binding Technology	Magnetic Beads
Downstream Application	PCR, qPCR, real-time RT-PCR, microarray, Northern blot, poly-A purification

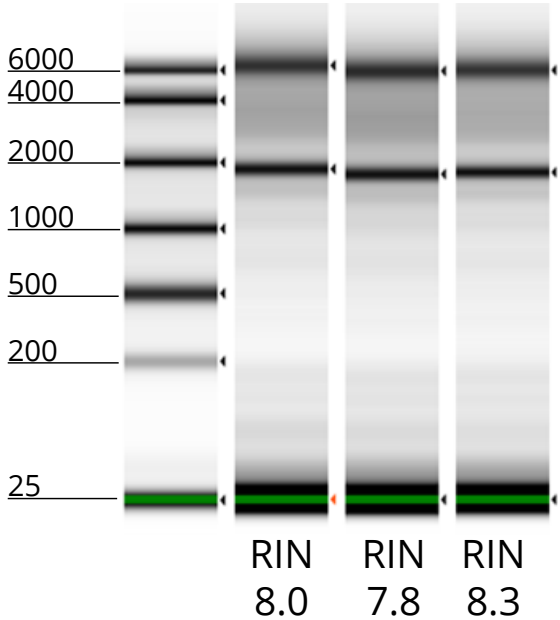
Product Description	Preps	Catalog No.
Mag-Bind® PX Blood RNA 96 Kit	1 x 96	M7763-00
	4 x 96	M7763-01
	12 x 96	M7763-02

Efficient RNA Extraction from PAXGene® Tubes



1 mL whole blood preserved in PaxGene Blood RNA Tubes was processed using the Mag-Bind® PX Blood RNA 96 Kit (n=3). Total RNA was quantified via NanoDrop™, indicating RNA yields between 2.71-2.95 µg and A260/A280 absorbance ratios ~1.8. These results confirm that Omega Bio-tek's Mag-Bind® PX Blood RNA 96 Kit is a reliable and efficient solution for high-quality total RNA isolation from PAXGene®-stabilized blood samples

TapeStation Analysis of RNA Extracted from PAXGene® Tubes



1 mL Whole blood preserved in PaxGene Blood RNA Tubes was processed using the Mag-Bind® PX Blood RNA 96 Kit (n=3). Total RNA was analyzed via Agilent's TapeStation® 2200 and showed RNA integrity numbers (RINs) between 7.8-8.3. These results confirm that Omega Bio-tek's Mag-Bind® PX Blood RNA 96 Kit is a reliable and efficient solution for high-quality total RNA isolation from PAXGene®-stabilized blood samples.

Mag-Bind® TotalPure NGS

REQUEST A SAMPLE

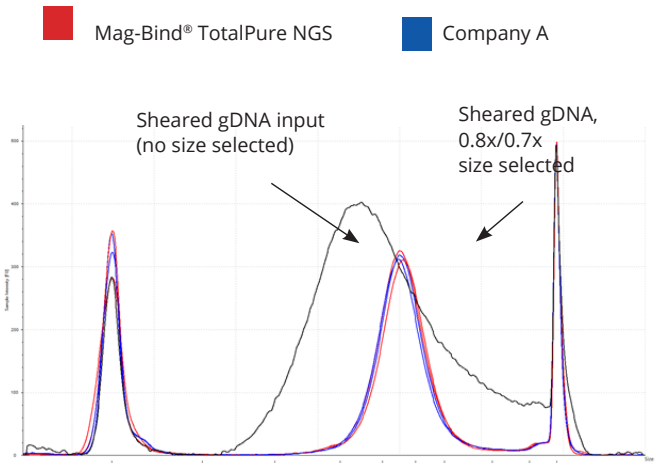
Bead-based purification of DNA & RNA for Next Generation Sequencing workflows

- No protocol change against major competitor
- NGS: Double or single-sided size selection
- DNA cleanup: PCR cleanup
- RNA cleanup: cDNA or RNA purification
- Manual or adaptable to most open-ended liquid handlers
- Significant cost savings
- 96- or 384-well formats

Product	mL	Cat. No.
Mag-Bind® Total Pure NGS	5 mL	M1378-00
	50 mL	M1378-01
	500 mL	M1378-02

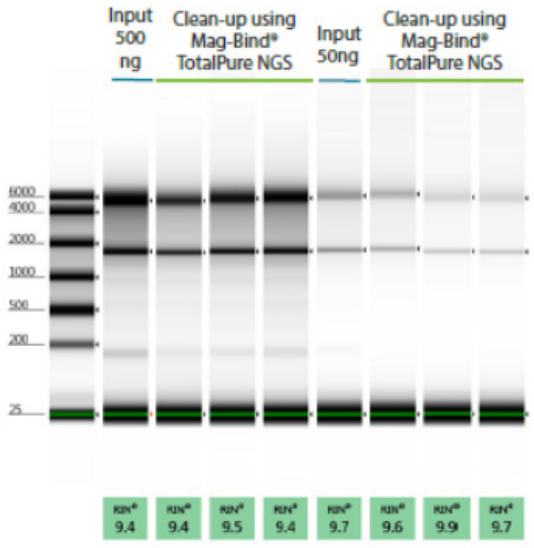
Mag-Bind® TotalPure NGS offers an easy-to-use, reliable solution for the purification of both DNA or RNA for Next Generation Sequencing workflows with high recovery rates. Mag-Bind TotalPure NGS is capable of selectively binding fragments depending on the reagent to sample ratio used, giving the user flexibility to perform left, right, or double-sided size selection. This product is designed for both manual or fully automated purification of DNA and RNA samples, as well as for the purification of PCR products. The system combines Omega Bio-tek's proprietary chemistries with reversible nucleic acid binding properties of magnetic beads to selectively bind fragments larger than 100 bp and eliminate excess nucleotides, primers, and small, non-targeted products such as primer-dimers. Purified DNA and RNA is suitable for a variety of downstream applications such as NGS library preparation, microarrays, automated fluorescent sequencing, and restriction enzyme digestion.

Double-Sided Size Selection



Electropherogram overlay of the double-sided size selection on sheared gDNA at 0.8x/0.7x ratio set and using Omega Bio-tek's Mag-Bind® TotalPure NGS and a comparable product from Company A following manufacturer's recommended protocols. The DNA was eluted in 25 µL and analyzed on Agilent's TapeStation 2200.

RNA Recovery Rates



10 µL of RNA at 50 ng/µL and 5 ng/µL was cleaned up with Omega Bio-tek's Mag-Bind® TotalPure NGS following manufacturer's recommended protocols. The RNA was eluted in 20 µL and analyzed on Agilent's TapeStation 2200. Recovery rates were 85-92% respectively.

Mag-Bind® SeqDTR

REQUEST A SAMPLE

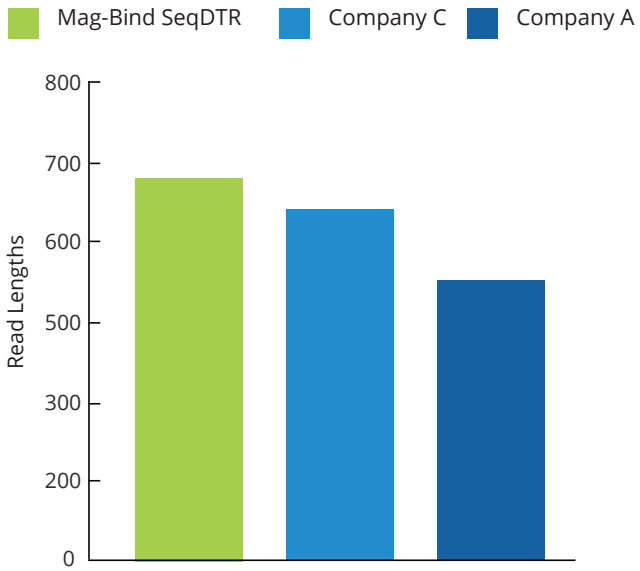
Removes unincorporated dye terminators from sequencing reactions

- No protocol change against major competitor
- Read lengths averaging over 800 bps (Min Phred 20)
- Manual or adjustable to automated liquid handlers
- Significant cost savings compared to sephadex-based clean ups
- 96- or 384-well formats

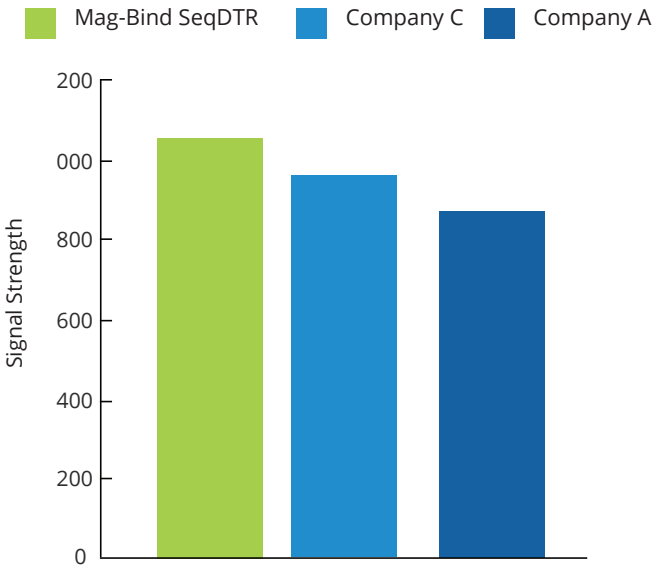
Product	mL	Cat. No.
Mag-Bind® SeqDTR	5 mL	M1300-05
	50 mL	M1300-08
	500 mL	M1300-50

Mag-Bind® SeqDTR is designed to effectively and reliably remove unincorporated terminators from sequencing reactions. Sequencing products are mixed with the Mag-Bind SeqDTR magnetic particles which selectively bind DNA. Two rapid wash steps eliminate trace contaminants such as nucleotides and primers to reduce background signal and therefore achieve higher QV scores. The high sensitivity of Mag-Bind SeqDTR's binding ability allows for decreased concentrations of BigDye® chemistry to be used and longer continuous read lengths to be achieved. Mag-Bind SeqDTR can be processed in 96- and 384- well formats and is compatible with many liquid handling instruments, including Hamilton Microlab® STAR™ & STARlet™, Beckman Coulter Biomek® FX & NX and Tecan Evo instruments. Up to 4 plates can be run in a 96-well format in less than 25 minutes.

Continuous Read Lengths



Signal Strength



Purified 1.8 kb PCR fragments were sequenced from each company using the recommended protocols. The median of 16 samples per company were used in the representations above. A 5 µL sequencing reaction was performed using a 1/32 dilution of Applied Biosystems Big Dye Terminator v3.1 chemistry. DNA was analyzed on an Applied Biosystems 3730 XL.

Mag-Bind® Stool DNA 96 Kit

REQUEST A SAMPLE

Isolates high-quality host & pathogen genomic DNA from stool samples utilizing magnetic beads

- Isolate DNA from fecal samples using magnetic beads

The Mag-Bind Stool DNA 96 Kit is designed for rapid and reliable isolation of high-quality host as well as pathogenic genomic DNA from stool samples. The Mag-Bind® technology is ideally suited for automated liquid handlers and the uniquely formulated cHTR reagent eliminates PCR-inhibiting compounds such as humic acids, lipids, etc. commonly found in stool samples. The extraction system allows for automation after sample lysis via Hamilton Microlab® STAR™, Thermo Fisher Scientific KingFisher® Flex, Applied Biosystems MagMAX® 96, Qiagen BioSprint® 96 and other liquid handling instruments.

The kit includes our 96-well disruptor plates which are pre-filled with glass beads. The protocol involves no organic extractions reducing both plastic waste and hands-on time to allow parallel processing of multiple samples. Purified DNA is inhibitor-free and is suitable for various downstream applications such as PCR, restriction digestion and NGS.

Features	Specifications
Starting material	Fecal material
Starting Amount	300 µL
Elution Volume	50-100 µL
Processing Mode	Manual or Automated
Throughput	96 samples per run
Nucleic Acid Binding Technology	Magnetic Beads
Downstream Application	PCR, restriction digestion, and hybridization applications

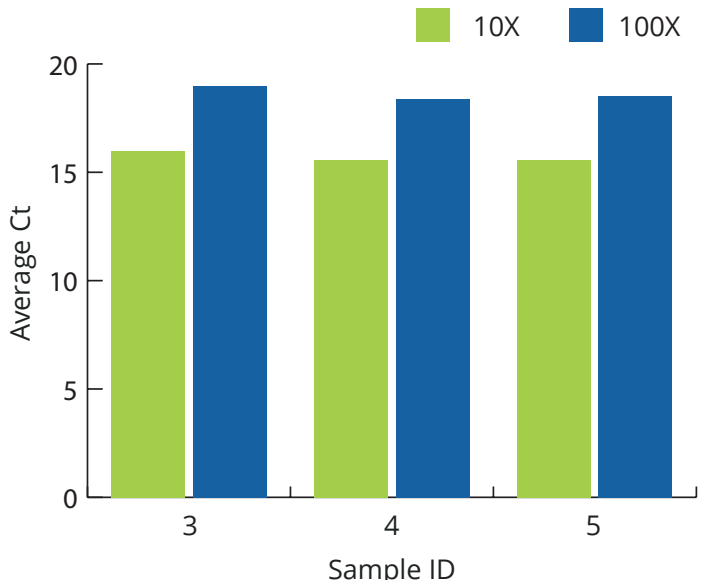
Product	Preps	Cat. No.
Mag-Bind® Stool DNA 96 Kit	1x96	M4016-00
	4x96	M4016-01

DNA Yield and Purity

Sample ID	DNA Yield in µg (NanoDrop®)	A_{260}/A_{280}	DNA Yield in µg (PicoGreen®)
1	3.61	1.87	3.20
2	3.71	1.87	4.20
3	2.73	1.9	2.00
4	3.03	1.83	2.70
5	1.76	1.83	1.90
6	3.53	1.81	3.70
7	3.60	1.86	3.30
8	1.76	1.83	2.00

DNA was extracted from 250 µL of stool samples and was eluted in 100 µL volume. The DNA yield was determined using NanoDrop and PicoGreen quantification methods.

Purified DNA Ct Values



Average Ct values obtained using 16S bacterial specific primers on 10X and 100X diluted purified DNA as the template. Sample IDs 3, 4, and 5 are represented here.

Mag-Bind® Total RNA 96 Kit

REQUEST A SAMPLE

Isolates high-quality total cellular RNA from a variety of cells & tissues

Mag-Bind® Total RNA Kit provides a novel technology for high-quality total RNA isolation from a wide variety of cells and tissues. Total RNA can be purified from 5-10 mg of tissue or 1x10^6 cultured cells. The system combines the efficient reversible nucleic acid- binding properties of Mag-Bind® particles with our RNA buffer chemistry to provide superior quality RNA. Unlike column- based systems, the binding of nucleic acids to magnetic particles occurs in solution resulting in increased binding kinetics and binding efficiency. Particles are also completely re-suspended during the wash steps or the purification protocol, which improves removal of contaminants and increases nucleic acid purity. The Mag-Bind® Total RNA 96 procedure can be fully automated on most robotic workstations.

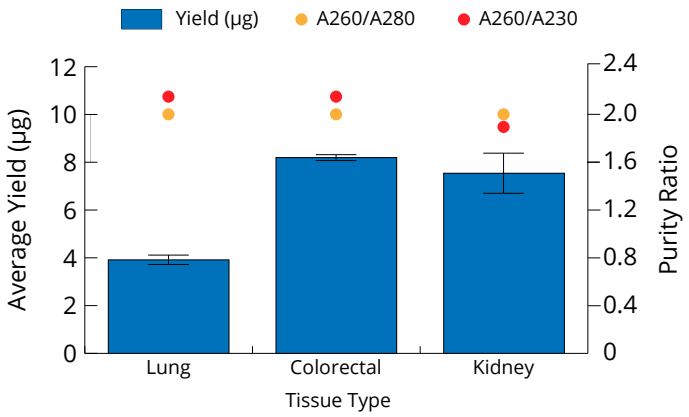
Features	Specifications
Starting material	Animal tissue and cultured cells
Starting Amount	1 x 10^6 cells or 10 mg tissue
Elution Volume	50-100 µL
Processing Mode	Manual or Automated
Throughput	96
Nucleic Acid Binding Technology	Magnetic Beads
Downstream Application	NGS, qPCR, microarray

RNA Yield Comparison

	Tissue (mg)	NanoDrop® (ng/µL)	NanoDrop® Yield (µg)	RIN^e
Company Q	9	329.7	16.485	7.9
	10	187.8	9.39	8.1
	8.5	198.2	9.91	8.3
	10	416.2	20.81	7.6
Omega Bio-tek	10	348.4	34.84	6.9
	9	329.4	32.94	7.8
	8	263.6	26.36	8
	12	355.7	35.57	7.5

Total RNA was extracted from tissue using the Mag-Bind® Total RNA Kit and analyzed on Agilent's TapeStation® 2200.

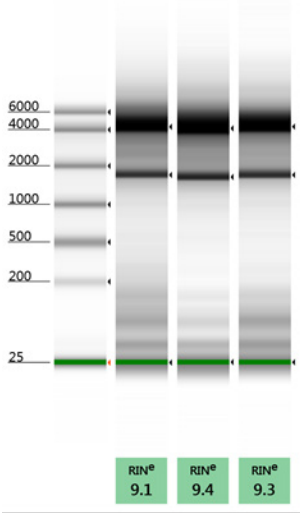
Highly Reproducible Yields from Versatile Tissue Types



Total RNA was extracted from lung, colorectal, and kidney (n = 3-5) using the Mag-Bind® Total RNA 96 Kit. RNA yield and purity were quantified using Thermo Scientific's NanoDrop™ 2000c system. All samples showed high RNA concentrations,

Product Description	Preps	Catalog No.
Mag-Bind® Total RNA 96 Kit	1 x 96	M6731-00
	4 x 96	M6731-01
	12 x 96	M6731-02

RNA Integrity



RNA Integrity. Total RNA was extracted from 1×10^6 cells using the Mag-Bind Total RNA Kit. The RNA samples were analyzed with RNA tape on Agilent's TapeStation 220.

Mag-Bind® Environmental DNA 96 Kit

REQUEST A SAMPLE

Isolate DNA from soil and water samples using magnetic beads

- Ceramic Beads pre-aliquoted in a convenient 96-well format for sample homogenization
- Unique inhibitor removal reagent
- Automation Friendly

The Mag-Bind® Environmental DNA 96 Kit allows rapid and reliable isolation of high-quality DNA from soil and water samples. The Mag-Bind Environmental DNA 96 Kit can isolate microbial DNA from yeast, fungi, and gram-positive or negative bacteria. Up to 96 one hundred mg soil samples can be processed in 120 minutes using automated liquid handlers or magnetic processors. Omega Bio-tek's unique cHTR Reagent effectively removes humic acid and other PCR inhibitors allowing for purified DNA to be suitable for PCR, 16S sequencing, Whole Genome Sequencing, and Next Generation Sequencing. There are no organic extractions thus reducing plastic waste and hands-on time to allow multiple samples to be processed in parallel.

Features	Specifications
Sample Type	Yeast, fungi, and gram-positive or negative bacteria
Starting Amount	Up to 250 mg soil or 1 water filter
Elution Volume	50-100 µL
Yield	Dependant on sample biomass
Processing Mode	Manual or Automated
Throughput	96
Nucleic Acid Binding Technology	Magnetic Beads
Downstream Application	qPCR, PCR, Next Generation Sequencing

Product	Preps	Cat. No.
Mag-Bind® Environmental DNA 96 Kit	1x96	M5645-00
	4x96	M5645-01

Soil Protocol DNA Yield and Purity

Sample ID	Yield (µg)	A260/A280	A260/A230
Omega Bio-tek	3.16	1.86	1.11
	3.15	1.84	1.21
	2.92	1.91	0.08
	2.91	0.851	0.20
Comapny Q	1.4	1.33	0.58
	1.41	0.4	0.65

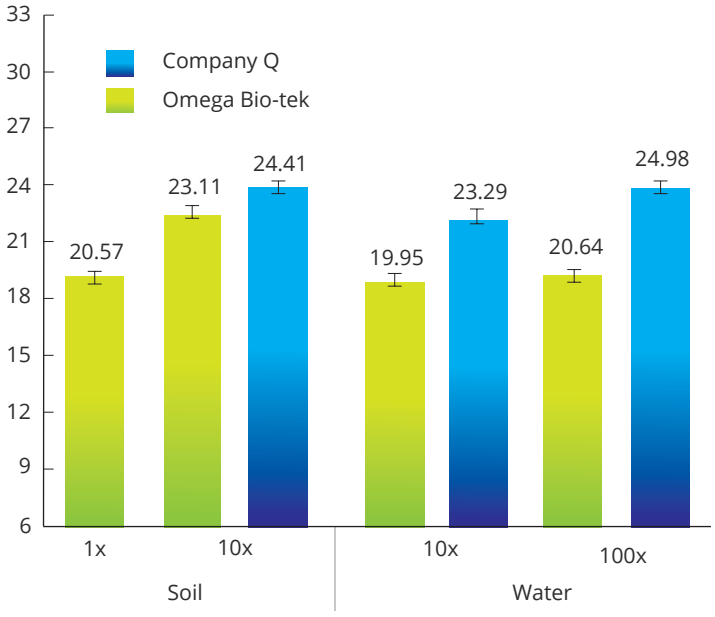
DNA yields and absorbance ratios using kits from Omega Bio-tek and Company Q following soil protocol.

Water Protocol DNA Yield and Purity

Sample ID	Yield (µg)	A260/A280	A260/A230
Omega Bio-tek	5.71	1.86	1.36
	6.80	1.89	1.33
	5.98	1.87	1.09
	5.78	1.87	1.95
Company Q	2.90	1.77	1.84
	3.51	1.78	1.88
	3.02	1.80	1.84
	3.38	1.80	1.90

DNA yields and absorbance ratios using kits from Omega Bio-tek and Company Q following water protocol.

Average Ct Values at Different Dilutions



Average Ct values obtained after amplifying the purified DNA from Omega Bio-tek and Company Q's kits with *B. subtilis* specific primers following soil and water protocols.

Mag-Bind® Plant DNA DS 96 Kit

REQUEST A SAMPLE

High-throughput DNA isolation from plant seed & leaf tissues using magnetic beads

- Isolate DNA from plant samples using magnetic beads
- Straightforward, rapid, and reliable procedure
- Adaptable in most robotic liquid handling platforms

Mag-Bind® Plant DNA DS 96 Kit allows rapid and reliable isolation of high-quality genomic DNA from plants and other tissues that are particularly difficult to lyse or very high in polysaccharide content. The lysis and binding buffers are specifically designed to minimize co-purification of polysaccharides and polyphenols. Up to 96 samples of 50 mg wet tissue (or 15 mg dry tissue) can be processed in parallel in less than 1 hour. The system combines CTAB-based lysis, which eliminates the need for organic solvents, with the convenience of Mag-Bind® particles to eliminate polysaccharides, phenolic compounds, and enzyme inhibitors from plant tissue lysates. This kit is designed for manual or fully automated high-throughput preparation of genomic, chloroplast, and mitochondrial DNA. Purified DNA is suitable for PCR, restriction digestion, Next Generation Sequencing, and hybridization applications. There are no organic extractions, thereby reducing consumables and decreasing hands-on time to allow multiple samples to be processed in parallel.

Features	Specifications
Starting material	Plants and other tissues that are particularly difficult to lyse or very high in polysaccharide content.
Starting Amount	50 mg wet tissue or 15 mg dry tissue
Elution Volume	100-200 µL
Processing Mode	Manual or Automated
Throughput	96
Nucleic Acid Binding Technology	Magnetic Beads
Downstream Application	PCR, restriction digestion, Next Generation Sequencing, and hybridization applications

Product Description	Preps	Catalog No.
Mag-Bind® Plant DNA DS 96 Kit	1 x 96	M1130-00
	4 x 96	M1130-01

DNA Yield Comparison from Different Plant Types

Type	Company Q (ng/ mg)	Omega Bio-tek (ng/mg)
Tobacco	12.3	19.4
Peanuts	6.3	52.9
Sunflowers	41.8	89.1
Oranges	4.6	31.2
Switchgrass	21.9	7.9
Peppers	6.9	111.0
Sugarcane	10.5	93.1
Oats	18.4	270.0
Wheat	0.5	152.3
Barley	9.6	198.1
Canola	3.4	59.0
Tomatoes	2.6	120.2
Grapes	1.9	212.4
Alfalfa	17.9	85.2
Corn	4.0	29.8
Sugar beets	20.2	34.0
Soybeans	26.8	25.4
Cotton	30.5	63.5
Potatoes	30.0	206.5
Average	14.8	94.7

DNA was extracted from approximately 50 mg leaf samples following manufacturer's recommended protocols. DNA concentration was determined via fluorescence-based nucleic acid quantification. DNA quantification confirmed via SYBR qPCR (data not shown). Amount of DNA per mg of leaf sample is shown above.

Mag-Bind® Endo-free Plasmid Mini Kit

REQUEST A SAMPLE

Purify endotoxin free (<0.1 EU/µg) plasmid DNA using magnetic beads from up to 1.5 mL culture volume

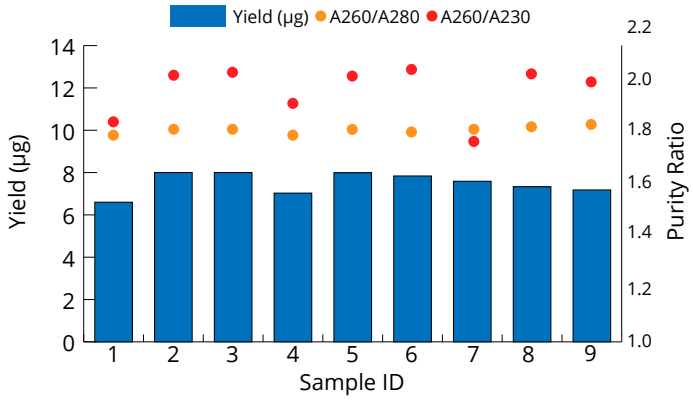
- Fully Automatable - Magnetic beads clear lysate, avoiding manual centrifugation
- High-yielding - Up to 20 µg plasmid DNA from 1.5 mL TB culture
- Versatile - Process up to 1.5 mL of different culture medias with different plasmids
- Transfection-Quality - Endotoxin-free plasmid DNA (<0.1 EU/µg)

The Mag-Bind® Endo-free Plasmid Mini Kit offers a scalable, onestop solution for endotoxin free (<0.1 EU/µg) plasmid purification from up to 1.5 mL bacterial cultures grown in LB, TB, or other suitable growth media. This Kit follows a modified alkaline lysis method, with the option to clear lysate using paramagnetic lysate clearance beads (Mag-Bind® Particles LC), centrifugation, or syringe, Eluted plasmid DNA is high-quality and ready for use in eukaryotic transfections or other sensitive in vitro applications in ~65 minutes.

Features	Specifications
Sample Type	Bacteria harboring high-copy or low-copy plasmid in LB, TB, or other suitable culture media
Starting Amount	Up to 1.5 mL overnight bacterial culture
Elution Volume	50-100 µL
Processing Mode	Manual or Automated
Throughput	1-96
Online Processing time	~65 minutes
Endotoxin Levels	< 0.1 EU/µg
Lysate Clearance Methodology	Magnetic beads, syringe, or centrifugation

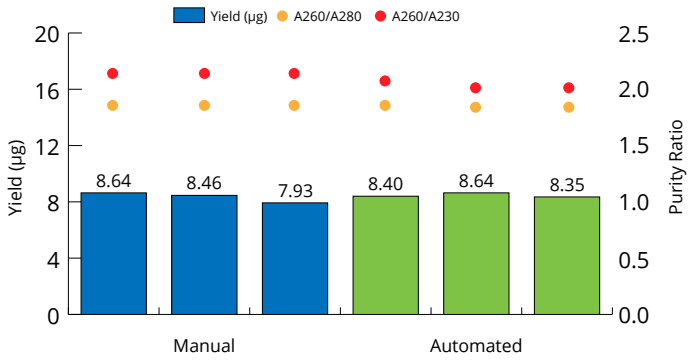
Product	Preps	Cat. No.
Mag-Bind® Endo-free Plasmid Mini Kit	1x96	M1261-00
	4x96	M1261-01

Consistent Yields and Purities of Plasmid Preps Automated on the Hamilton Microlab® STAR™



pGEM plasmid was purified from 1 mL DH5α cultures using the Mag-Bind® Endo-free Mini Kit, fully automated on the Hamilton Microlab® STAR™ platform, starting from a bacterial pellet and using lysate clearance beads. Purified plasmid DNA was eluted in 100 µL and quantified using Thermo Scientific's NanoDrop™ 2000c system. Plasmid yields were consistent among the replicates and had excellent purity ratios with A260/280 ~1.8 and A260/A230 ~2.0.

Consistent Yields of High-Quality, Endotoxin-free pGEM Plasmid Between Manual and Automated Methods



pGEM plasmid was purified from 1.5 mL LB culture volume using the Mag-Bind® Endo-free Plasmid Mini Kit on the KingFisher™ Flex. Purified plasmid was quantified using Thermo Scientific's NanoDrop 2000c system. Plasmid yields were consistent between extraction methods, with A260/A280 ratios ~1.8, and A260/A230 ratios ~2.0. All purified plasmids were endotoxin-free (<0.01 EU/µg).

Mag-Bind® Endo-free Plasmid Midi Kit

REQUEST A SAMPLE

Purify endotoxin free (<0.1 EU/µg) plasmid DNA using magnetic beads from up to 50 mL culture volume.

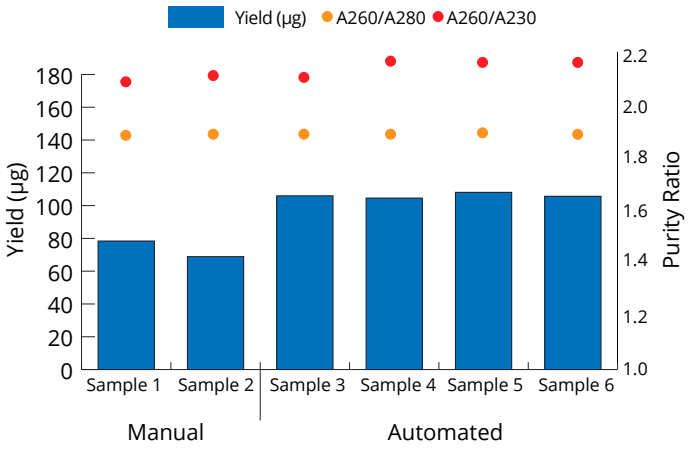
- Rapid - 24 samples can be processed in ~70 minutes after online lysisMagnetic beads clear lysate, avaoiding manual centrifugation
- Versatile - Process up to 50 mL bacterial culture with different plasmid types and culture medias
- High-Yielding - Plasmid DNA yields up to 200 ng
- Transfection-quality - Endotoxin-free plasmid DNA (<0.1 EU/µg)

The Mag-Bind® Endo-free Plasmid Midi Kit offers a scalable, onestop solution for endotoxin free (<0.1 EU/µg) plasmid purification from up to 50 mL bacterial cultures grown in LB medium or up to 10 mL cultures grown in TB medium. This Kit follows a modified alkaline lysis method, with the option to clear lysate using paramagnetic lysate clearance beads (Mag-Bind® Particles LC), centrifugation, or syringe. Eluted plasmid DNA is high-quality, ready for use in eukaryotic transfections or other sensitive in vitro applications in ~70 minutes.

Features	Specifications
Starting Material	Bacteria harboring high-copy or low-copy plasmid in LB, TB, or other suitable culture media.
Starting Amount	Up to 50 mL bacterial culture in LB or up to 10 mL bacterial culture in TB
Elution Volume	100 µL
Processing Mode	Manual or Automated
Throughput	1-24
Online Processing Time	~70 minutes
Endotoxin Levels	< 0.1 EU/µg
Lysate Clearance Methodology	Magnetic beads, syringe, or centrifugation

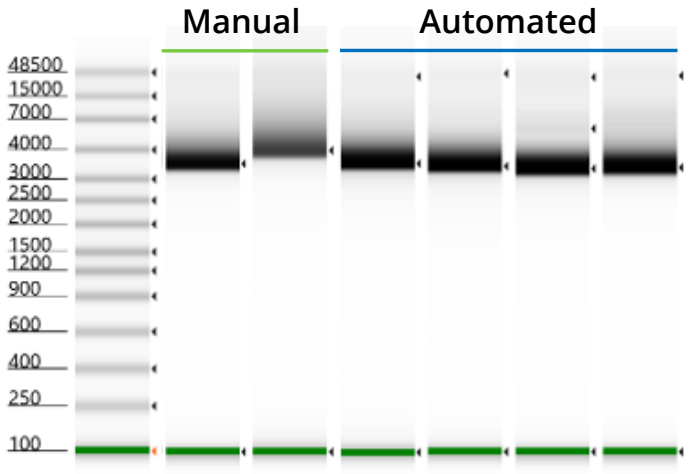
Product Description	Preps	Catalog No.
Mag-Bind® Endo-free Plasmid Midi Kit	1 x 96	M1272-00
	4 x 96	M1272-01

Consistent Plasmid DNA Yields with Excellent Purity Ratios Using the Dynamic Devices Lynx®



pGEM Plasmid DNA was extracted from 50 mL bacterial pellet manually using the Mag-Bind® Endo-free Plasmid Midi Kit, according to manufacturer's instructions, as well as using the Kit automated on Dynamic Devices' Lynx platform. Average yields were 1.5X higher for automated extraction vs. manual. A260/A280 and A260/A230 ratios were comparable between the two methods.

Comparable Plasmid Integrity Regardless of Extraction Method



pGEM Plasmid DNA was extracted from 50 mL bacterial pellet manually using the Mag-Bind® Endo-free Plasmid Midi Kit, according to manufacturer's instructions, as well as using the Kit automated on Dynamic Devices' Lynx platform. TapeStation analysis shows comparable integrity between the two methods.

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