

MagBinder® Fit²⁴



Automated, high-volume
DNA & RNA purification

 **omega**
BIO-TEK

omegabiotek.com



MagBinder® Fit²⁴ Nucleic Acid Purification System

Automate Your Way: Turnkey or Customizable Solutions

REQUEST
A
DEMO

CE IVD
AVAILABLE

Elevate your laboratory experience with the MagBinder® Fit²⁴ Nucleic Acid Purification System. Efficiency, affordability, precision, and reliability, all in one powerful instrument. Order yours now and unlock the future of automated 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**

Research and IVD Ready

The MagBinder® Fit²⁴ 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



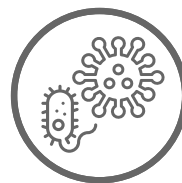
Whole Blood



Saliva



Cell-free DNA



Pathogens



Swab



Fecal



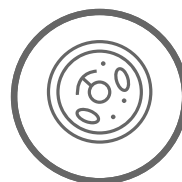
FFPE



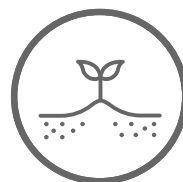
Plasmid



Insect and
Mollusc



Tissue



Plant



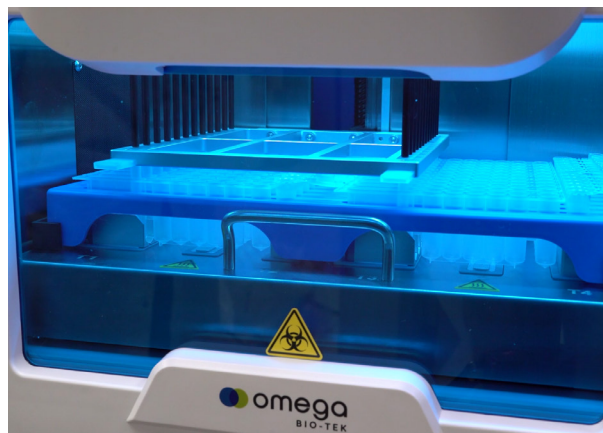
Environmental

MagBinder® Fit²⁴ Nucleic Acid Purification System

Automate Your Way: Turnkey or Customizable Solutions

Simple and Efficient

Experience efficient nucleic acid purification with the MagBinder® Fit²⁴ Nucleic Acid Purification System. Our affordable, state-of-the-art instrument utilizes 24 magnetic rods coordinated to pick-up, transfer, and release magnetic particles within reagent cartridge wells, ensuring a reliable and streamlined process for DNA and RNA purification. Accommodating 1 to 24 samples simultaneously, the MagBinder® Fit²⁴ is compatible with a range of sample types, thanks to Omega Bio-tek's line of magnetic bead-based nucleic acid extraction cartridges and kits.



Turnkey Solution

Get to processing samples faster with seamless integration of specially designed MB Fit24™ pre-filled extraction kits. The MagBinder® Fit²⁴ comes complete with validated, pre-loaded scripts for MB Fit24™ pre-filled extraction kits, allowing faster set-up time and less manual intervention.



Flexibility at its Finest

Designed to work seamlessly with Omega Bio-tek Mag-Bind® kits, the MagBinder® Fit²⁴ presents a flexible, programmable platform. The user-friendly interface empowers effortless programming of new protocols directly on the instrument. Scripted protocols available for any MagBind® Kit, fully supported by our Field Application Scientist, provide a complete, turnkey solution.

Have any questions about instrument protocols? Reach out to an Omega Bio-tek Field Application Scientist for support: automation@omegabiotek.com.



MB Fit24™ cfDNA Kit



Pre-scripted solution for the purification of cfDNA from up to 4 mL plasma samples

- Pre-filled cartridges with pre-defined, validated scripts for MagBinder® Fit²⁴
- Extract cfDNA from 4 mL plasma with no sample splitting

Specifically designed for use with the MagBinder® Fit²⁴ Nucleic Acid Purification System, this kit revolutionizes your workflow, allowing for the extraction of circulating DNA from up to 4 mL plasma/serum samples serum eluted in as little as 100 µL optimized to extract smaller DNA fragments (150-400 bp). The MB Fit24™ cfDNA Kit streamlines your process by eliminating reagent preparation and buffer dispensing and the semi-automated extraction workflow is capable of processing up to 24 samples in less than 55 minutes.

Product	Cat. No.
MB Fit24™ cfDNA Kit	B3298-10-48PF

Features	Specifications
Starting material	Up to 4 mL plasma/serum
Elution Volume	100 µL
Technology	Magnetic Beads
Processing Mode	Pre-filled, Automated
Throughput	1-24
Estimated offline Processing	40 minutes
Online Processing Time	53 minutes
Note	Downstream applications: NGS, qPCR

TapeStation® Analysis Shows Well-Defined cfDNA Peaks

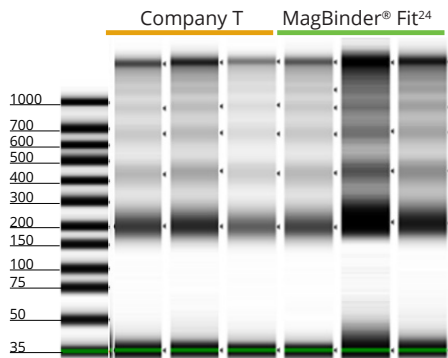


Figure 1. TapeStation Analysis of cfDNA extracted from 4 mL of plasma show well-defined cfDNA peaks, with additional multimers above.



MB Fit24™ cfDNA Kit

Average Ct Values Illustrate Absence of Inhibitors

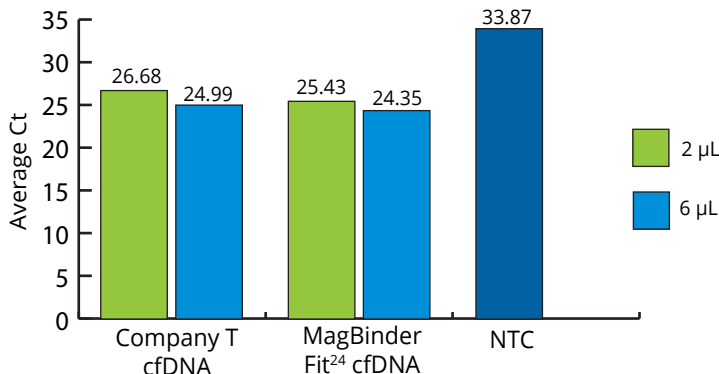


Figure 2. qPCR analysis results in a ΔCt within the expected range of 1-1.5 for the cfDNA extracted using the MB Fit24™ cfDNA Kit, illustrating reduced inhibition.

MB Fit24™ Blood & Tissue DNA Kit

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Pre-scripted solution for purification of DNA from blood, saliva, cultured cells, or fresh or frozen tissue

- Pre-filled cartridges with pre-defined, validated scripts for MagBinder® Fit24
- 24 lysed samples processed in less than 50 minutes

Experience the power of Mag-Bind® Particles PF-HDQ, providing reversible nucleic acid binding properties. Paired with Omega Bio-tek's buffers, this system offers a fast and convenient method for isolating DNA from diverse sample types. The purification procedure delivers high-quality DNA, ready for direct use in various downstream applications such as PCR amplification, next-generation sequencing, and enzymatic reactions.

Features	Specifications
Starting material	250 µL blood samples, 500 µL saliva, swabs, or fresh/frozen cultured cells and tissue
Elution Volume	100 µL
Technology	Magnetic Beads
Processing Mode	Pre-filled, Automated
Throughput	1-24
Estimated offline Processing	Blood, saliva, cells, swabs: 30 minutes Tissue: 1-3 hours
Online Processing Time	47 minutes
Note	Downstream applications: NGS, qPCR, microarray

Product	Cat. No.
MB Fit24™ Blood & Tissue DNA Kit	B6399-5-48PF

MB Fit24™ Blood & Tissue DNA Kit Produces Consistently High Yields of High-Quality DNA

Sample	Avg. Yield (µg)	A260/A280	A260/A230
Saliva	7.99±0.70	1.78±0.06	1.76±0.19
Whole Blood	10.16±0.70	1.88±0.02	2.18±0.16
Tissue	38.39±1.59	1.84±0.004	1.99±0.004

Figure 1. The average DNA yield from 250 µL whole blood, 500 µL stabilized saliva, and 10 mg of tissue were obtained using the MB Fit24™ Blood & Tissue DNA Kit. The absorbance ratios > 1.8 indicate high purity of the isolated DNA

Extracted DNA is Unfragmented and of High Molecular Weight

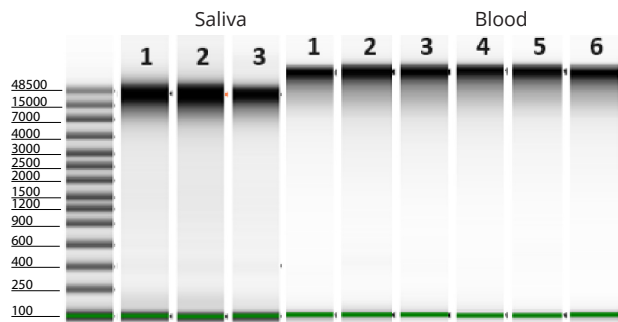


Figure 2. DNA extracted using the MB Fit24™ Blood & Tissue DNA Kit yield unfragmented DNA from both blood and saliva. The DNA purified from blood is of high molecular weight, showing > 60 kb.

qPCR Analysis Illustrates Absence of Inhibitors

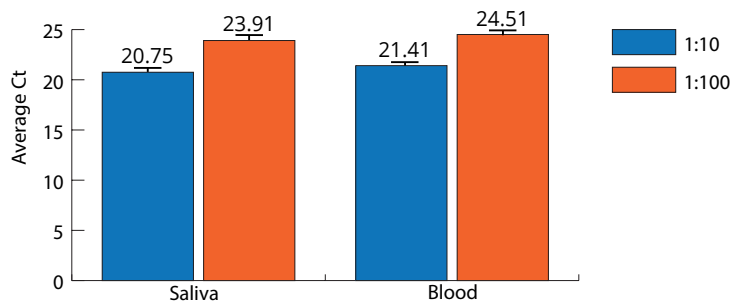


Figure 3. qPCR analysis of both blood and saliva results in ΔC_t values ~3.3, indicating the absence of inhibitors within the extracted DNA and substantiating its suitability for use in applications downstream.

Mag-Bind® Endo-free Plasmid Midi Kit

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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 offline lysis
- **Versatile** – Process up to 50 mL bacterial culture with different plasmid types and culture medias
- **High Yielding** – Plasmid DNA yields up to 200 μg
- **Transfection-quality** – Endotoxin free plasmid DNA (<0.1 EU/μg)

The Mag-Bind® Endo-free Plasmid Midi Kit, in conjunction with the MagBinder® Fit²⁴, offers a scalable, one-stop 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 Amount	Up to 50 mL bacterial culture in LB or up to 10 mL in TB
Starting Material	Bacteria harboring high-copy or low-copy plasmid in LB, TB, or other suitable culture medium
Elution Volume	100 μL (Up to 5 mL LB or TB) 500 μL (Up to 50 mL LB or 10 mL TB)
Processing Mode	User-filled, Automated
Throughput	1-24
Online Processing Time	~70 minutes
Endotoxin Levels	< 0.1 EU/μg
Lysate Clearance Methodology	Magnetic beads, centrifugation, or syringe

Product	Cat. No.
Mag-Bind® Endo-free Plasmid Midi Kit	M1272

More Convenience with Comparable Yields vs Company Media

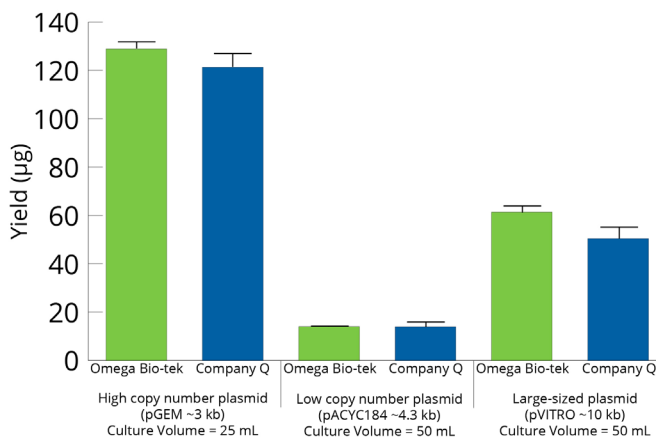


Figure 1. A variety of plasmid types and sizes were purified from DH5α cultures (n=3) using the Mag-Bind® Endo-free Plasmid Midi Kit, in addition to an equivalent kit from Company Q, following respective manufacturers' recommended protocols. Purified plasmid DNA was quantified using Thermo Scientific's NanoDrop™ 2000c system. Plasmid yields were comparable for all plasmid types, irrespective of the extraction kit used. Inset table shows advantages of Omega Bio-tek's Kit over Company Q's Kit.

Versatility Across Various Plasmid Types and Culture

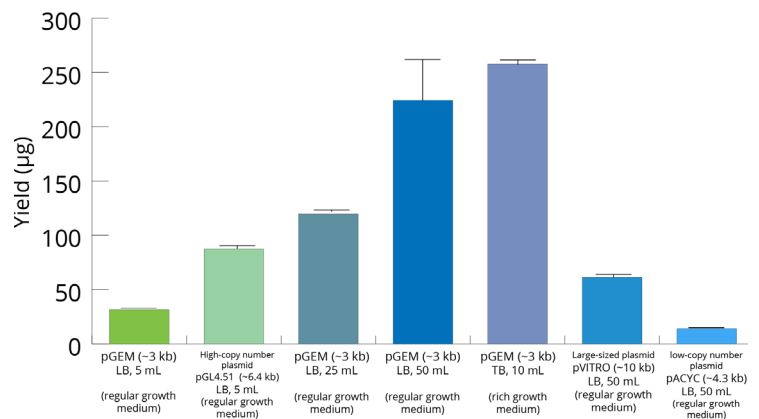


Figure 2. Mag-Bind® Endo-free Plasmid Midi Kit is capable of handling diverse sample input conditions ranging from plasmid types, plasmid sizes, culture medium, and input culture volumes. The plasmid yield may vary based on these conditions.

Mag-Bind® Kit Protocols

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

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

MagBINDER Fit ²⁴ Protocols						
Kit	Input Amount	Throughput	Offline Time	Online Time	Elution Volume	Note
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, 1x10 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	Lysate clearance via magnetic beads, centrifugation, or syringe
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, 1x10 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	~2hrs 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, 1x10 ⁶ Cells	1-24 Samples	~20 Minutes	95 Minutes	100 µL	



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