

# Mag-Bind® cfDNA Kit

Rapid & efficient isolation of circulating cell-free DNA from 0.5 - 4 mL plasma or serum samples with minimal genomic DNA contamination

CAT NO: M3298



**192 samples  
in 2 hours\***

\* 1.0 mL sample on  
liquid handler



**Bead-Based**

Scalable DNA purification

500-4,000 µL Input  
50 µL elution volume



**Quality**

Minimal genomic DNA  
contamination

High quality cfDNA  
suitable for qPCR, NGS



**Automatable**

Adaptable on most open-  
ended liquid handlers

**Cost Effective**

**50%** less than the  
competition  
on average

**Mag-Bind® cfDNA Kit** is designed for the rapid and efficient isolation of circulating cell-free DNA from 500-4,000 µL plasma or serum samples. The Mag-Bind® cfDNA Kit can be processed manually or with automated platforms. The procedure eliminates the need for funnels and vacuum steps, providing hands-free operation in automated protocols.

The uniquely formulated binding buffer allows for large sample volumes to be processed in automated formats with 4 mL of serum or plasma being processed in 24-well plates. 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. 4 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.

## Electropherogram Overlay of Purified DNA from 4 mL Serum

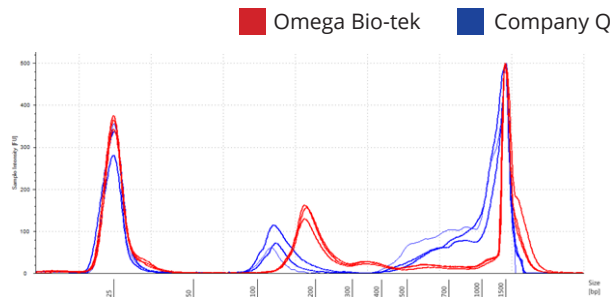


Figure 1.

**Figure 1.** 4 mL of unspiked serum was purified using kits from Omega Bio-tek and Company Q following manufacturer's recommended protocols. Purified DNA was analyzed on Agilent's TapeStation® 2200.

## Next Generation Sequencing Library Preps from 1 mL Serum

**Figure 2.** 1 mL of unspiked serum was purified using kits from Omega Bio-tek and Company Q following manufacturer's recommended protocols and eluted in 50 µL. Next-generation sequencing libraries were constructed using the KAPA Biosystems HyperPrep Library Construction Kit. 25 µL input DNA was used for each prep. Library construction products were analyzed on Agilent's TapeStation® 2200 after adaptor ligation.

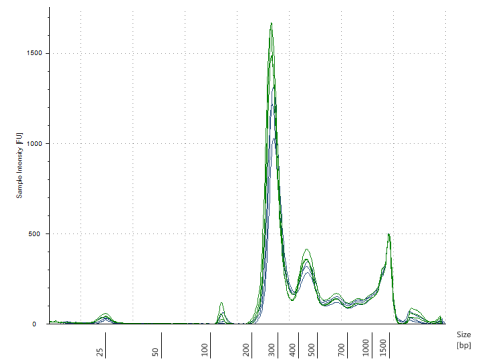


Figure 2.



innovations in nucleic acid isolation

Omega Bio-tek, Inc.  
400 Pinnacle Way, Suite 450  
Norcross, GA 30071

Phone: 770-931-8400  
Email: [info@omegabiotek.com](mailto:info@omegabiotek.com)  
Web: [www.omegabiotek.com](http://www.omegabiotek.com)



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# Mag-Bind® cfDNA Kit

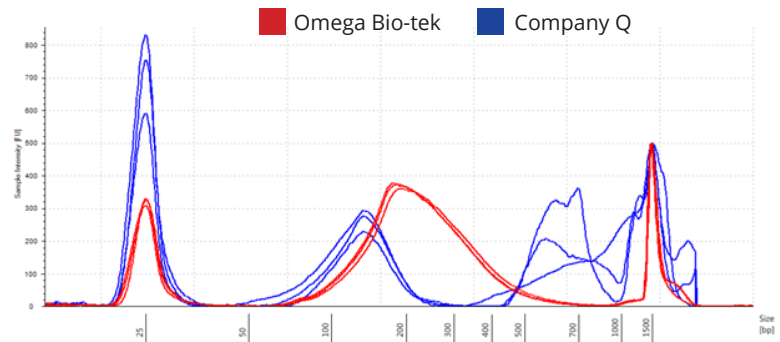
Rapid & efficient isolation of circulating cell-free DNA from 0.5 - 4 mL plasma or serum samples with minimal genomic DNA contamination

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## qPCR Comparison for 200 bp Fragments

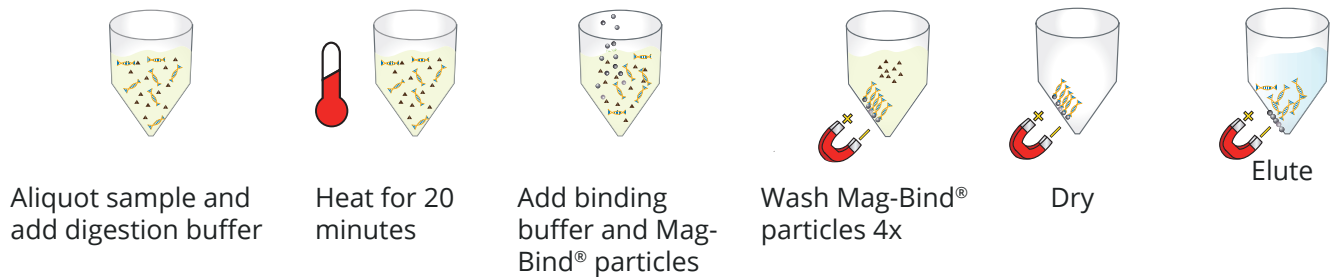
Figure 3.

Extraction Method	Average Ct	
	1X	10X
Omega Bio-tek	16.99	20.34
Company Q	17.18	20.59



**Figure 3.** 100 ng of 200 bp sheared bacterial genomic DNA was spiked into 1 mL of serum and extracted using the Mag-Bind® cfDNA Kit and a comparable column-based kit from Company Q following manufacturer's recommended protocols. Purified DNA was analyzed on Agilent's TapeStation® 2200. The Omega Bio-tek kit was able to capture the circulating, cell-free DNA with no genomic DNA contamination. In contrast, Company Q's eluate contained high molecular weight fragments indicating the presence of genomic DNA in the circulating DNA isolation. Real-time PCR with 16S bacterial-specific primers was performed on triplicates of undiluted and 10-fold dilutions of DNA.

## Illustrated Protocol



Product Description	Preps	Cat No.
Mag-Bind® cfDNA Kit, 0.5-4 mL samples	5	M3298-00
	50	M3298-01
	200	M3298-02

For free samples of any of our kits, visit [www.omegabiotek.com](http://www.omegabiotek.com)