

Mag-Bind® HMW DNA Kit

Isolate ultra-high molecular weight DNA up to 450 kb for long-read sequencing applications using magnetic beads



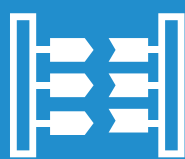
Ultra-High Molecular Weight DNA

Up to 450 kb from different sample types



Innovative Buffer System

Combined lysis and bind step for faster workflows



Long-Read Sequencing Ready

Unlock long-read performance on Oxford Nanopore® & PacBio® sequencing



Fully Automated Solution

Compatible with leading open automation platforms

Mag-Bind® HMW DNA Kit is designed for the purification of high molecular weight DNA up to 450 kb, ideal for long-read sequencing technologies. The Kit follows magnetic bead-based technology to purify high molecular weight DNA from up to 250 µL whole blood and saliva, 300 µL buffy coat, and 5 x 10⁶ cells. The Mag-Bind® HMW DNA Kit utilizes magnetic bead-based technology and can be processed either manually or automated on most open-ended liquid handling platforms as well as magnetic processors.

MINIMIZE HANDS-ON TIME WITH A COMBINED LYSIS AND BINDING STEP

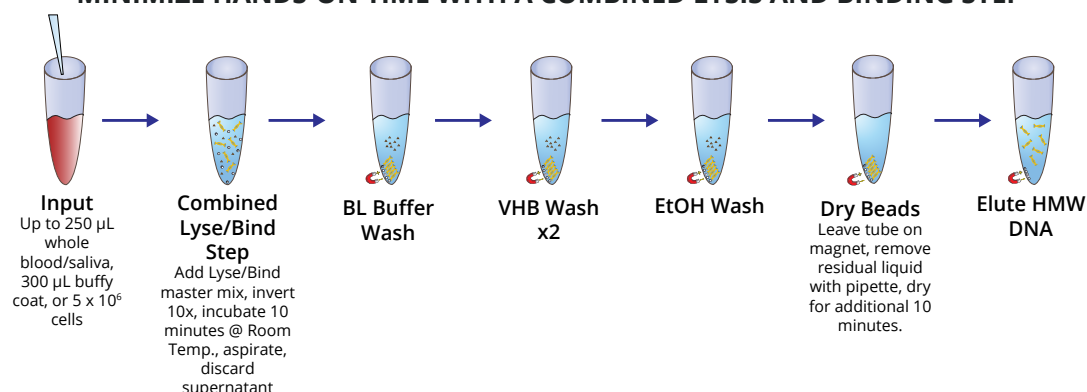


Figure 1. The Mag-Bind® HMW DNA Kit utilizes an innovative buffer system that combines the lysis and binding steps to a single steps, enabling faster workflows and reducing touchpoints.

REDUCED TOUCHPOINTS WITH FULLY AUTOMATED SOLUTION FROM OMEGA BIO-TEK

	OBT on MagBinder® Fit ²⁴	OBT on Hamilton Microlab® STAR™	Company N (Manual)	Company Z (Manual)	Company Q (Manual)
Touchpoints	9 + 3*	1 + 7**	~89	~77	~71
DNA Binding Technology	Magnetic Beads		Large Glass Beads	Magnetic Beads	Magnetic Beads
Validated Protocols for Automation	Provided by Omega Bio-tek		Cannot be Automated	Not Available	Not Available

Table 1. Comparison of the number of touchpoints in the HMW DNA extraction workflows for kits from Omega Bio-tek, Company N, Company Z, and Company Q, as well as DNA binding technology used and availability of validated automation protocols. Of the Kits, Omega Bio-tek's Mag-Bind® HMW DNA Kit minimizes the number of touchpoints, while also providing validated automation protocols.

*Fill buffers in the cartridge, load onto the MagBinder® Fit²⁴, add sample to pre-filled cartridge + tip mix and incubate post-elution.

**Load sample and buffers onto deck. Buffers are loaded once per run.



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
Web: www.omegabiotek.com



© 2025 Omega Bio-tek, Inc. All rights reserved. E.Z.N.A., E-Z 96 and Mag-Bind are trademarks of Omega Bio-tek, Inc. All other trademarks and trade names are the property of their respective holders. For research use only.

Mag-Bind® HMW DNA Kit

Isolate ultra-high molecular weight DNA up to 450 kb for long-read sequencing applications using magnetic beads

SUPERIOR HMW DNA SIZE DISTRIBUTION ANALYZED VIA FEMTO PULSE SYSTEM

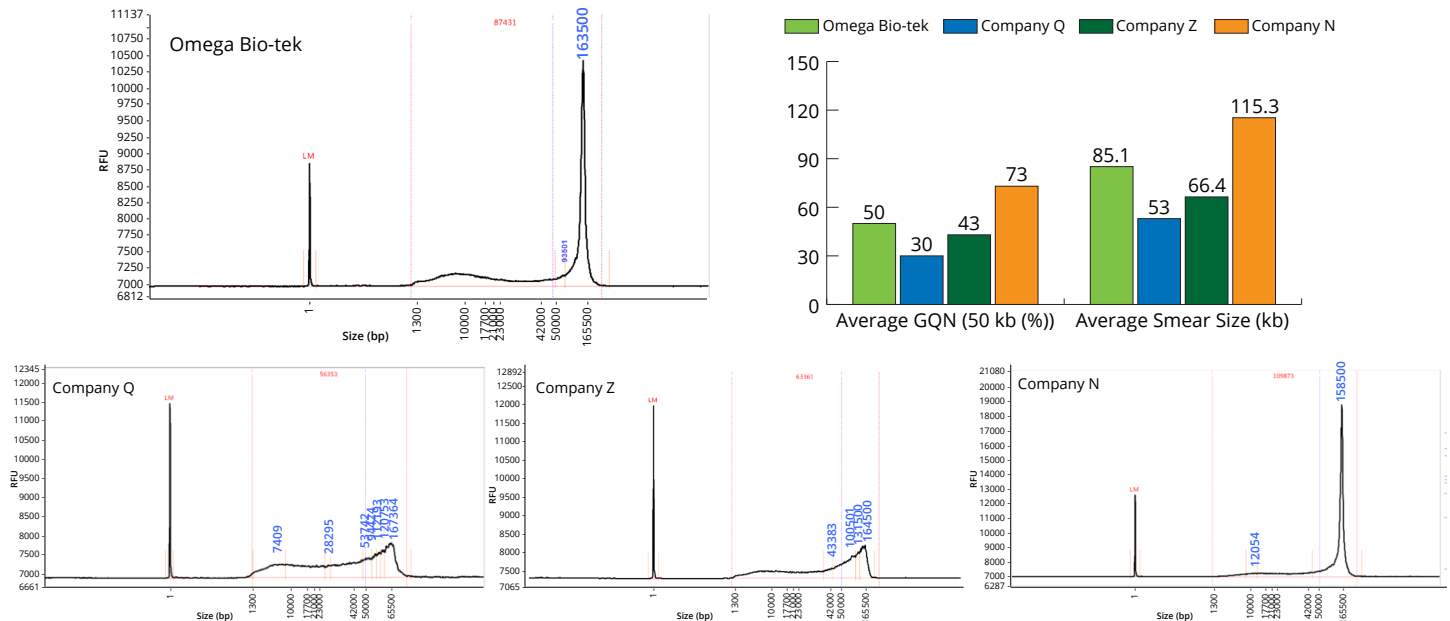
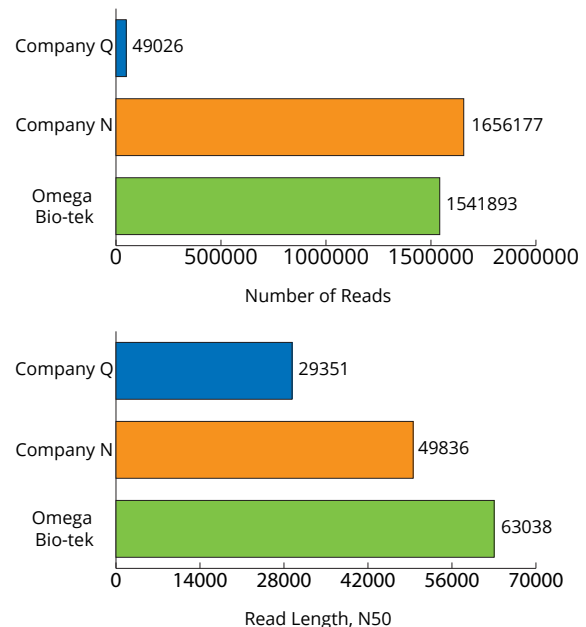


Figure 2. Femto pulse traces for DNA extracted using Omega Bio-tek's kit, as well as other competitor's kits, following manufacturer's recommended protocols. Proportion of DNA fragments ≥ 50 kb, as depicted by Genomic Quality Number (GQN 50 kb) and average smear size in kbp based on the Femto traces is shown in the bar graph above. The Femto pulse traces, average GWN, and smear size indicate higher proportion of high-molecular-weight DNA with Omega Bio-tek's and Company N's kits compared to kits from Company Z and Q.

HMW DNA EXTRACTION USING OMEGA BIO-TEK'S KIT ENABLES ULTRA-LONG READS IN OXFORD NANOPORE SEQUENCING

	Omega Bio-tek	Company N	Company Q
Mean Length (bp)	20444	23181	13808
Median Quality	21.1	22.5	21.3
% Reads > 50 kb	14.4	15.3	4.1
% Reads > 100 kb	3.8	2.0	0.1
Longest Read (bp)	448K	958K	205K

Figure 3. Genomic DNA was extracted from 250 μ L whole blood using the Mag-Bind® HMW DNA Kit, as well as other competing kits, was sequenced on Oxford Nanopore Platform for ultra-long reads. Sequencing summary data comparing different extraction methods is shown above. All metrics indicate that Omega Bio-tek's chemistry extracts high-molecular-weight DNA fragments with the longest read around 450 kb and % reads >50 kb and >100 kb was highest compared to competing chemistries. The N50 metric, which quantifies the read length above which half of the data is derived, was also found to be greater for Omega Bio-tek compared to Company N and Company Q.



Product Description	Size	Cat No.
Mag-Bind® HMW DNA Kit	1 x 24	M6311-00
	4 x 24	M6311-01