

Fully Automated Normalization Workflow for NGS Libraries

Skip the quant and dilutions, reduce hands-on time through automation.

Kit

Mag-Bind® NGS Normalization Kit (M6467)

Sample Type

1 kb sheared DNA fragment

Sample Amount

20 µL

Analysis

Library Normalization

Materials

Mag-Bind® NGS Normalization Kit (M6467)
Hamilton Microlab® STAR™

For a complete list of system components and plastic consumables on Hamilton Microlab® STAR™, please contact us at automation@omegabiotek.com

Methods

Automated method developed by Omega Bio-tek for the Hamilton Microlab® STAR™
96 libraries normalized in ~40 minutes

Mag-Bind® NGS Normalization Kit Protocol

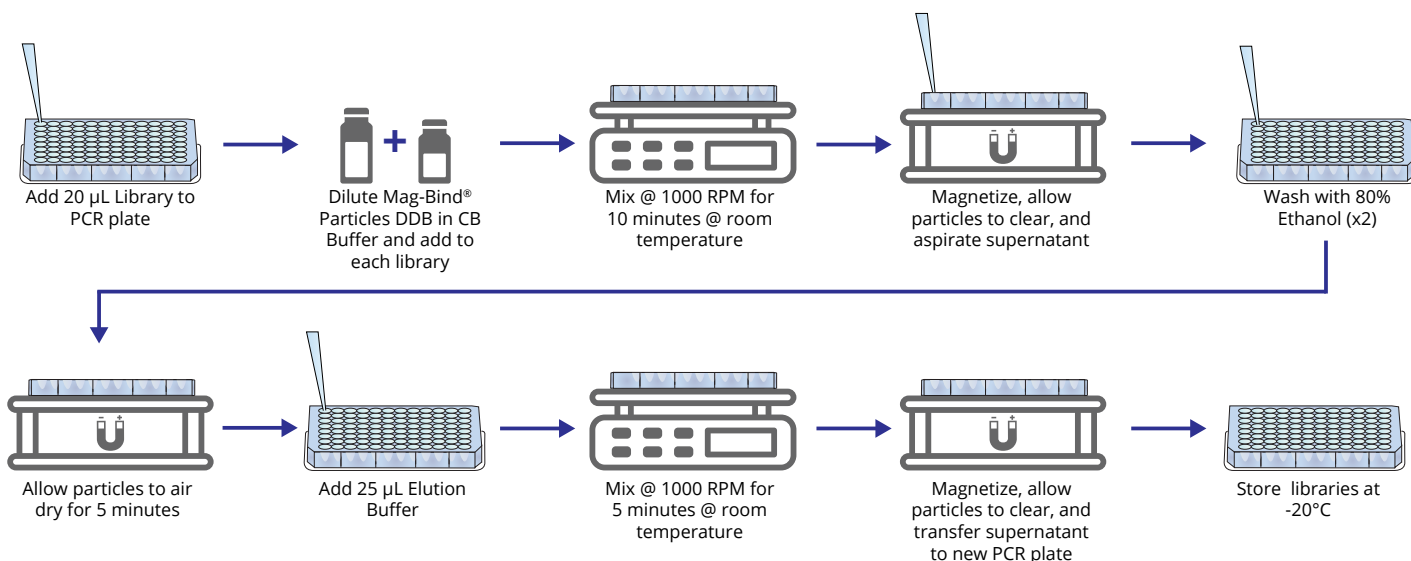


Figure 1. Workflow illustration of NGS library normalization using the Mag-Bind® NGS Normalization Kit (M6467).

Hamilton Microlab® STAR™ Deck Layout



Components	Purpose
1. Sample Plate	Holds DNA input libraries
2. Empty tip wafer	For tracking tip inventory
3, 4, 5, 6. 300 µL filter tips	Tips for dispensing
7. 12 column trough	Holds Binding Master Mix, 70% ethanol for washes, and Elution Buffer
8. Elution Plate	Holds eluted, normalized libraries
9. 1000 µL filter tips	Tips for dispensing

Figure 2. Illustration of the deck layout for the Hamilton Microlab® STAR™ configured for automated NGS library normalization using the Mag-Bind® NGS Normalization Kit (M6467).

Methods

The Mag-Bind® NGS Normalization Kit (M6467) was used to normalize 20 µL libraries containing different DNA input amounts (Figure 1). An automated method capable of normalizing 96 samples in ~40 minutes was generated for the Hamilton Microlab® STAR™ (Figure 2).

Results

Twenty-four 20 μ L libraries containing 200 ng (n=12) and 1000 ng (n=12) of DNA input were normalized using the Mag-Bind[®] NGS Normalization Kit (M6467). The location on the plate of each input amount, as well as measured DNA return, are shown in **Figure 3A**. The average DNA return for the sample group containing 200 ng DNA input was 127 ng with a Coefficient of Variation (CV%) of 11%, and the average DNA return for the group containing 1000 ng DNA input was 138 ng with a CV% of 6%. Average DNA return for all samples (n=24) across the plate was 133 ng with a Coefficient of Variation (CV%) of 10% (**Figure 3B**).

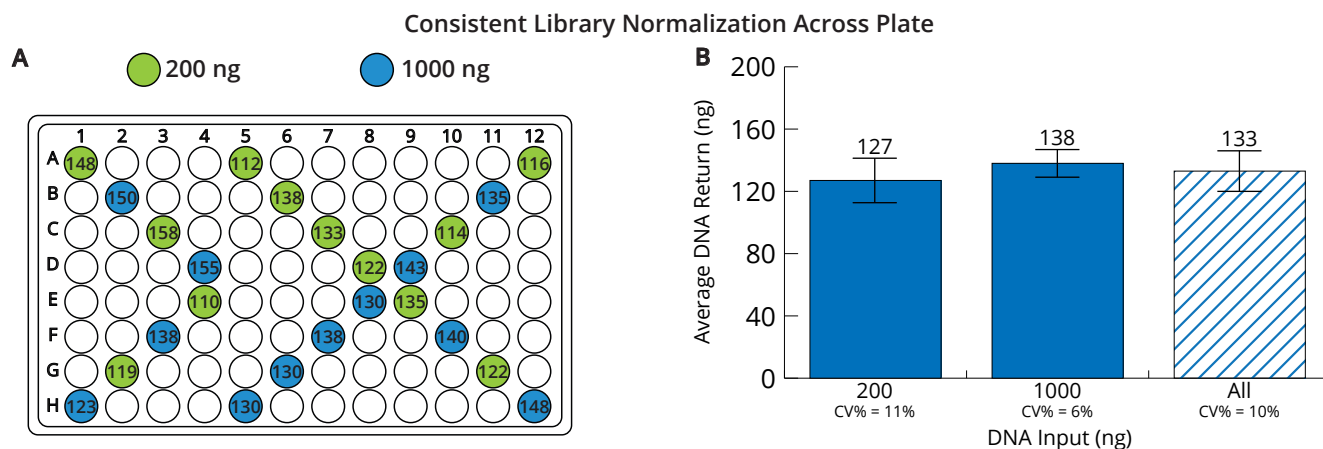


Figure 3. DNA input libraries were randomly placed in a 96-well plate and normalized using the Mag-Bind[®] NGS Normalization Kit (A). Green shaded wells in **Figure 3A** received 200 ng input, while blue shaded wells received 1000 ng input; the remaining wells were empty. The average DNA Returns from 200 ng and 1000 ng of DNA input were 127 ng and 138 ng, respectively (B). All inputs were consistently normalized regardless of location on the plate.

Conclusions

The Mag-Bind[®] NGS Normalization Kit (M6467), optimized for automation, consistently normalizes NGS libraries with inputs of at least 200 ng in approximately 40 minutes.

Product Information

Description	Product No.	Size
Mag-Bind [®] NGS Normalization Kit	M6467-00	1 x 96
	M6467-01	4 x 96