

Integrated DNA Extraction and Library Preparation

With the Encompass Optimum™ Workstation

The Encompass Optimum workstation enables fully integrated and automated DNA Extraction and NGS Library Preparation directly from raw or minimally processed samples in 5 hours.

Available Solutions

Sample Types: Buccal swabs, saliva, fresh frozen tissue, whole blood, bacterial isolates, gDNA

Compatible Library Prep Kits: Illumina Nextera DNA Flex and Takara Bio ThruPLEX®

Key Benefits

- Significantly reduced hands-on time and total time-to-results
- Can process up to 24 samples in 5 hours
- Reduced intra- and inter-batch variability of NGS libraries
- Reduced lab footprint and capital equipment cost

Coming Soon – FFPE, ccfDNA sample types and additional Library Prep kits

NGS OnePrep Workflow



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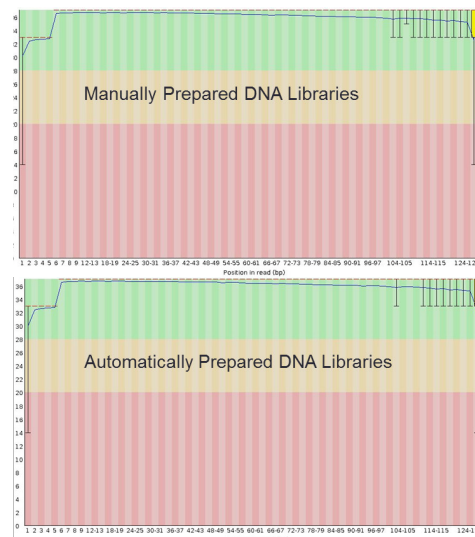
Collaborative data generated using the Rheonix method

University at Buffalo

BUCCAL SWABS & WHOLE BLOOD

- DNA isolation and NGS Library Prep successfully performed on buccal swabs and whole blood using Illumina Nextera DNA Library Prep Kit
- Reduced manual procedure requiring 1.5 days to 5 hours using the automated method
- Quality metrics were indistinguishable between manual and automated methods
- Data presented at ASM NGS 2017

Zhu, H., et. al. (2017, October). Fully Automated DNA Isolation & NGS Library Preparation. Poster session presented at the 2nd ASM Conference on Rapid Applied Microbial Next-Generation Sequencing and Bioinformatics Pipelines, Washington, DC.

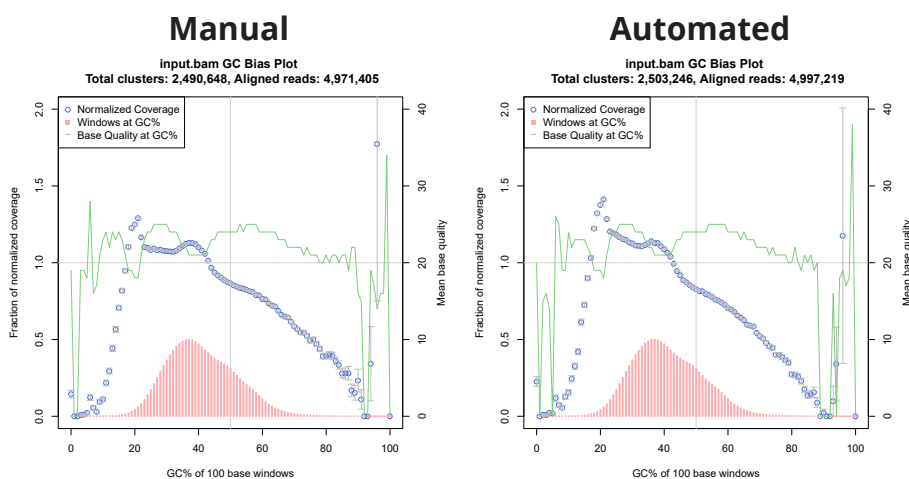


Takara Bio

FFPE

- FFPE controls obtained from AccuRef Diagnostics
- Preliminary results with Takara Bio ThruPLEX kits generated excellent quality scores and sequencing results
- Data presented at AMP 2018

Martin, P. (2018, October). A Fully Automated DNA-Seq workflow from FFPE blocks to Sequencing-Ready Libraries using SMARTer ThruPLEX. Oral presentation at workshop during the Annual Meeting of the Association of Molecular Pathology (AMP), San Antonio, TX.



Mérieux NutriSciences

BACTERIAL ISOLATES

- Sequenced libraries prepared by manual and automated methods yielded comparable results
- Automated DNA extraction and library prep demonstrated a 45% reduction in hands-on time and a 20% decrease in total time using Illumina Nextera XT kits
- Data presented at IAFFP 2018

Raengpradub, S., et. al. (2018, July). Comparison of Automated and Manual Next Generation Sequencing Library Preparations for Analysis of *Salmonella* and *Escherichia coli*. Oral presentation at the Annual Meeting of the International Association of Food Protection (IAFFP), Salt Lake City, UT.

Hands-on Time (in minutes)	Nextera XT (Manual)	Nextera XT (Automated)
DNA Isolation	145	42.5
Illumina Kit ¹	110	22
Sequencing Prep ²	125	130
Total (all steps)	380	194.5

¹ Includes tagmentation, indexing, amplification and purification

² Includes library QC check, normalization, pooling, denaturation and dilution