

DNA Library Prep for Oxford Nanopore LSK114



Miniaturized Library Preps with High Yields and Sequencing Data

Volta's DNA Library Prep for ONT (LSK114) App offers an automated, streamlined process to convert high molecular weight DNA into Oxford Nanopore-compatible, sequencing-ready libraries at a miniaturized reaction scale. This App supports whole-genome sequencing, targeted sequencing, and metagenomics applications.

Benefits

- **Maximized output:** Achieve >90 Gb data on PromethION consistently.
- **Superior data quality:** Generate highest-quality libraries that maintain high pore occupancy over 72 hours.
- **Reduce costs:** Lower prep costs through 2x miniaturization and 6x reduction in hands on time



The Volta Labs Callisto Sample Prep System offers robust and versatile library preparation through preloaded apps for high-quality short-read sequencing.

App specifications

Input: **1 µg, or 100-200 fmol of high molecular weight DNA**

Output: **Sequencing-ready libraries**

Hands-on time: **Less than 30 minutes**

Walk-away time: **3.5 hours**

Throughput: **Flexible, 4 – 24 rxns in a single run**

Chemistry: **Ligation Sequencing Kit V14 + NEBNext® Companion Module v2 for Oxford Nanopore Technologies® Ligation Sequencing**

Workflow steps

Input: Sheared, unpurified DNA

DNA repair and end prep

Clean up

Adapter ligation

Clean up

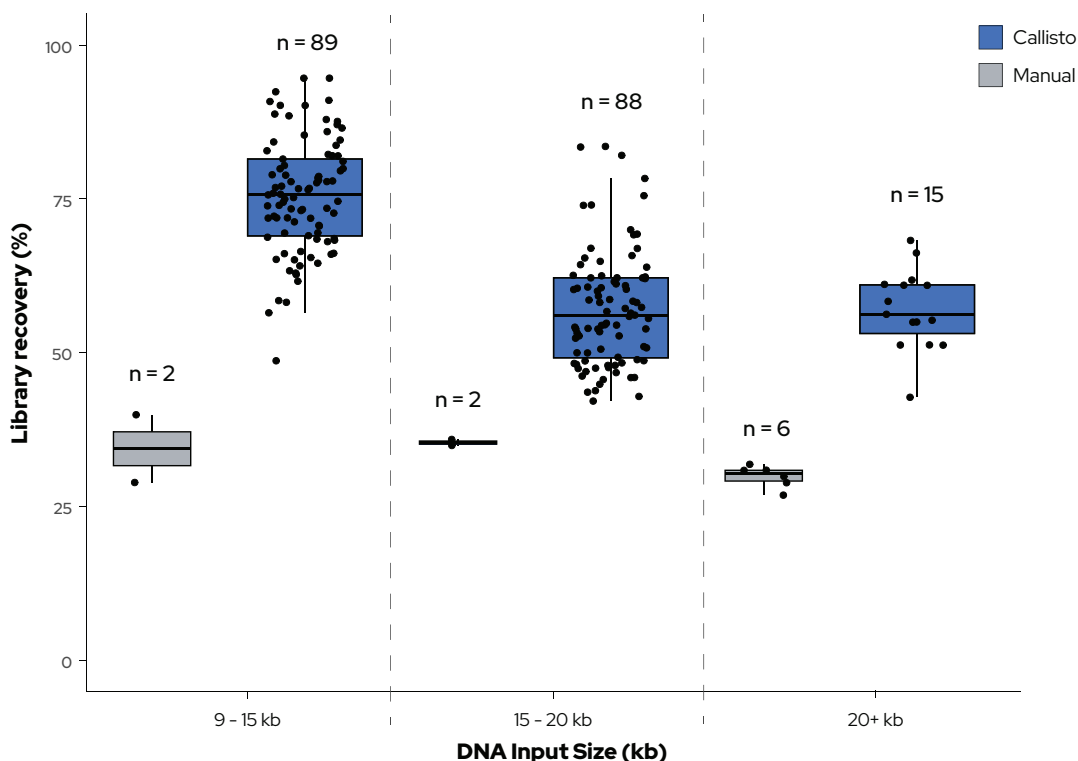
Output: Oxford Nanopore libraries

Walk-away processing on Callisto



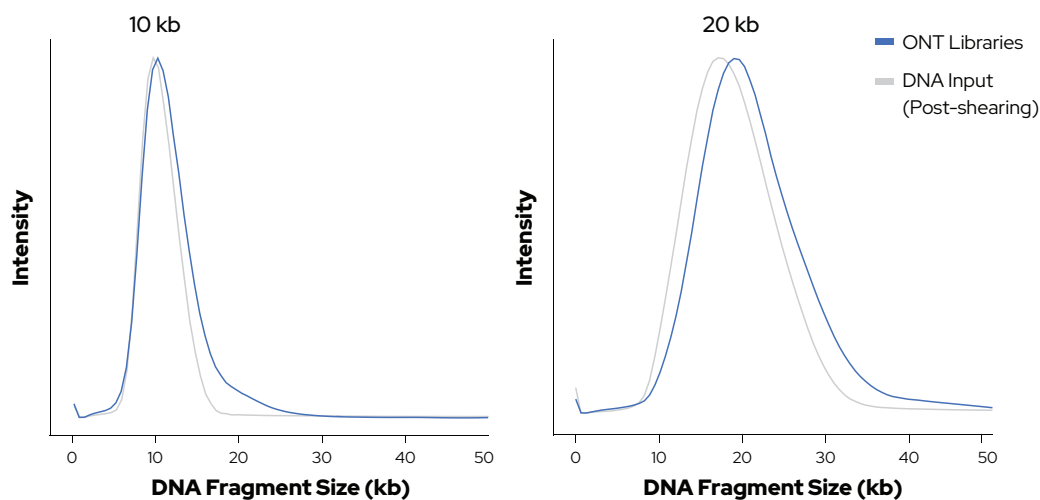
Miniaturized LSK114 preps with high yields

Callisto generates significantly higher library yields across a wide range of DNA input sizes compared to manual preps. 1 µg of input DNA yields enough library to load a PromethION flowcell and generate high quality sequencing data



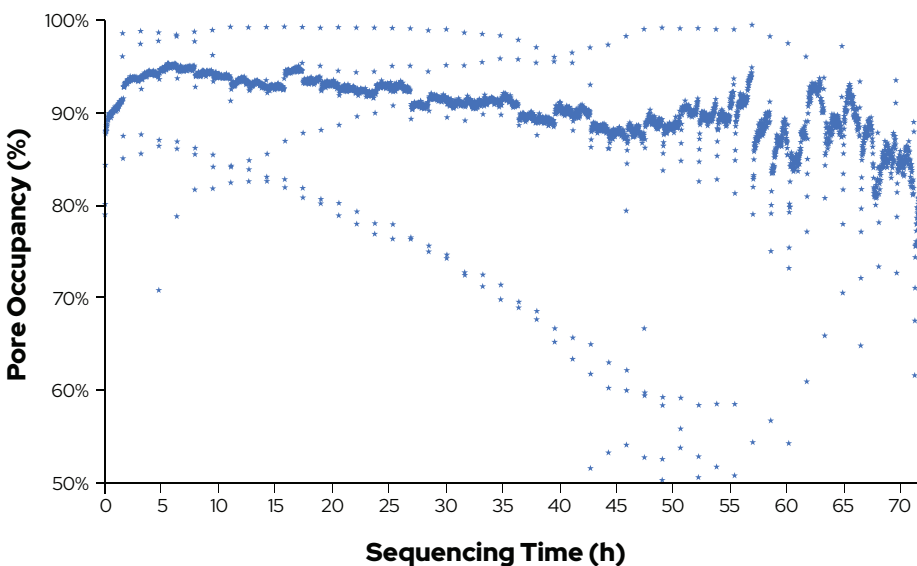
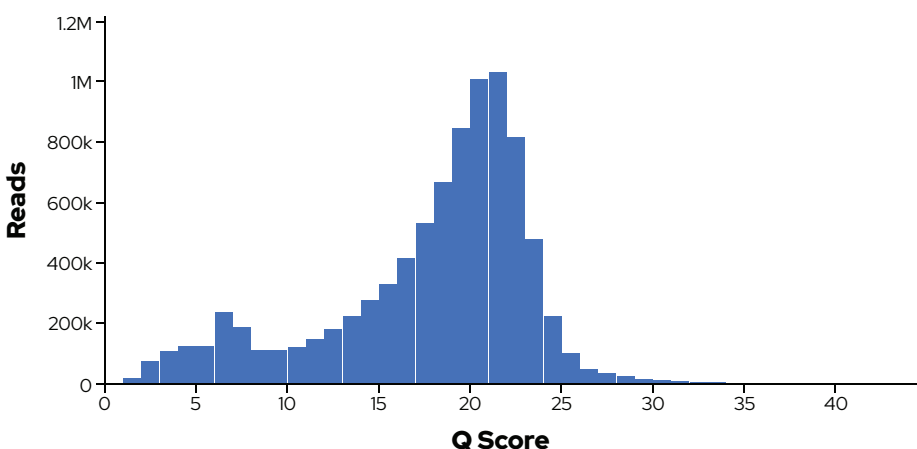
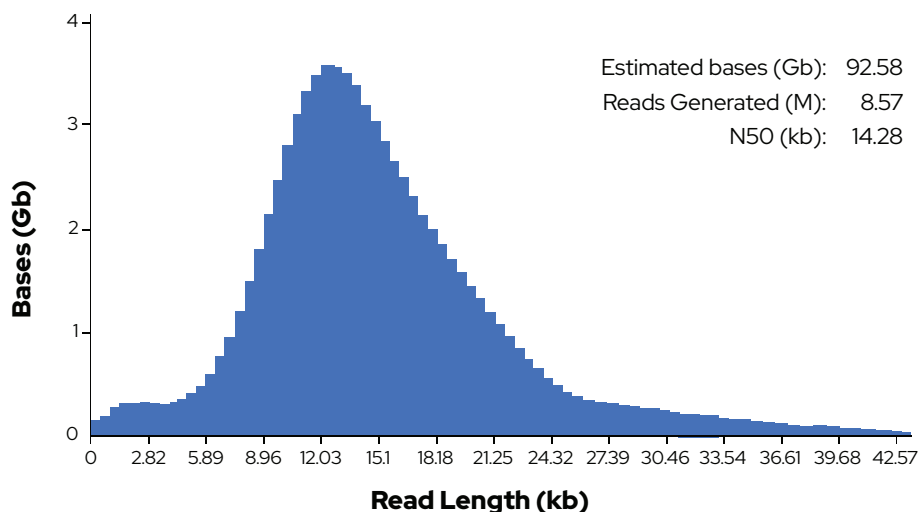
Libraries retain integrity of input DNA

The App uses a gentle process that prevents shearing, preserving the integrity of high molecular weight input DNA in the output libraries and enabling high N50 values when sequenced. As shown in the figure, the size distribution of input DNA and output libraries demonstrates strong overlap with only minimal shift.



High quality sequencing on Oxford Nanopore sequencing platforms

Libraries prepared on Callisto deliver high-quality sequencing results on MinION and PromethION platforms with exceptional scores on key metrics including N50, Q score, and pore occupancy with single loading. Consistently generating >90 GB of data is now feasible on PromethION flowcell due to the high efficiency library preparation process. The figure shows data obtained on a PromethION flowcell that was loaded once with 400 ng of the libraries prepared on Callisto.



Ordering information

Part number	Product	Description
C0001	Callisto™ Sample Prep System	Sample prep instrument
LP0007	DNA Library Prep for ONT (LSK114) - 48 rxns	Accessory Kit for 48 reactions
LP0010	DNA Library Prep for ONT (LSK114) - 480 rxns, HT	Accessory Kit for 480 reactions
SQK-LSK114 SQK-LSK114-XL	Ligation Sequencing Kit V14	ONT*
E7672S E7672L	NEBNext® Companion Module v2 for Oxford Nanopore Technologies® Ligation Sequencing	NEB*

LP0007 & LP0010 does not include library prep reagents and should be purchased directly from suppliers.

**Please contact suppliers directly to purchase these reagents.*



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