WATCHMAKER GENOMICS

VoltaPrep™

DNA EF LIBRARY PREP (POWERED BY WATCHMAKER)

Key Benefits

Highly consistent fragment size distributions
Delivers uniform fragment lengths run after run, improving library quality and downstream sequencing performance.

Exceptionally low duplication rates (<10%)
Maximizes usable reads and sequencing efficiency, even in demanding WGS applications.

Proven, production-ready reliability
Fully automated walk-away workflow with a failure rate of <1 in 300 runs, enabling confident scale-up in high-throughput labs

Volta's DNA EF Library Prep (powered by Watchmaker) offers automated, walk-away library prep for PCR free whole genome sequencing. Callisto supports flexible batch sizes up to 24 reactions with a preloaded workflow to enable sequencing on short read sequencing platforms. With a fully automated library prep, you spend less than 30 minutes of set-up time and achieve 3 hours of walk-away time for every 24 sample run on Callisto.

Highly Reproducible Short Read Sequencing

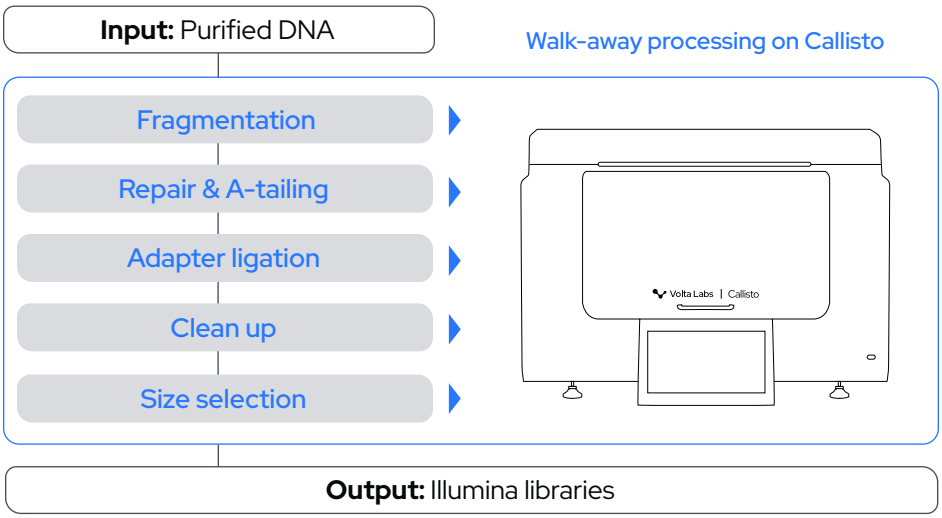
Volta's DNA EF Library Prep (powered by Watchmaker) offers an automated, streamlined process for efficiently converting DNA of variable quantities into Illumina™ compatible sequencing ready libraries. The process includes enzymatic fragmentation, end-repair, A-tailing, adapter ligation and bead-based size selection, producing libraries with minimal bias and artifacts. The App supports supports PCR free WGS across multiple sequencing platforms, whole exome sequencing, and targeted sequencing by offering different library fragment sizes.

Compatible sequencing platforms: Illumina Sequencers, UG 100, Element AVITI.

App specifications

Input:	100-500 ng DNA
Output:	Sequencing ready libraries
Hands-on time:	Less than 30 minutes
Walk-away time:	3 hours
Throughput:	Flexible, 4 to 24 rxns in a single run
Chemistry:	Watchmaker Genomics

Workflow steps



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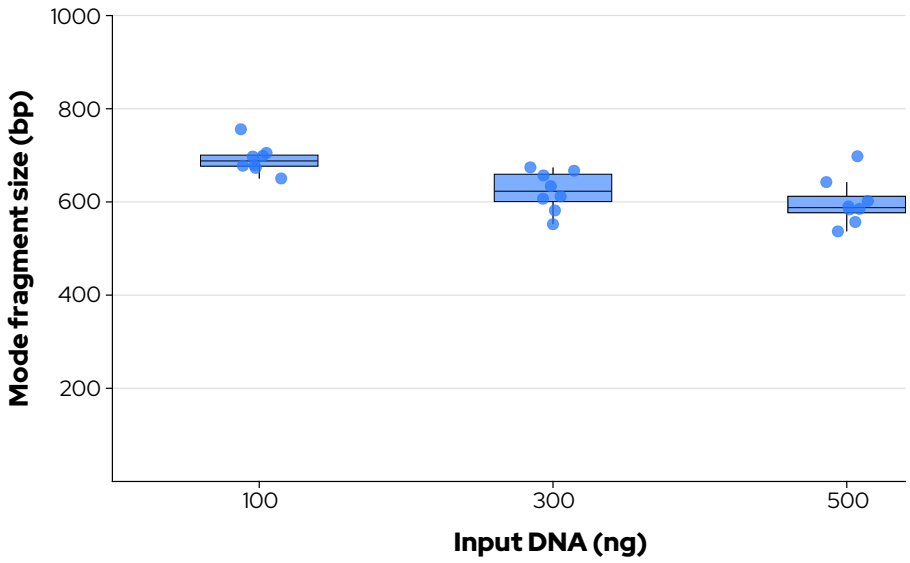
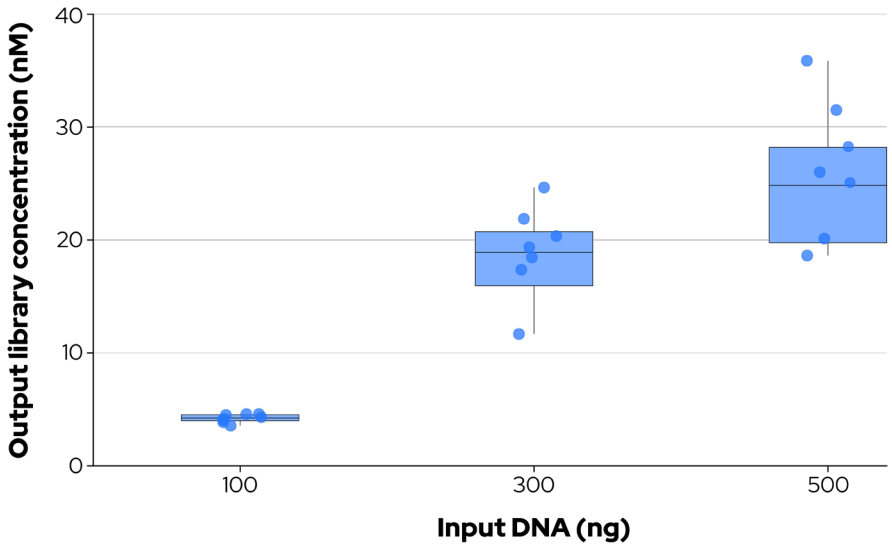
Highly reproducible output library size across input sources and masses

Callisto generates libraries that are suitable for whole genome sequencing. The library prep App consistently delivers mode library size of approximately 600 bp across a broad input DNA mass range from 50 ng to 600 ng. from 100 ng to 600 ng.



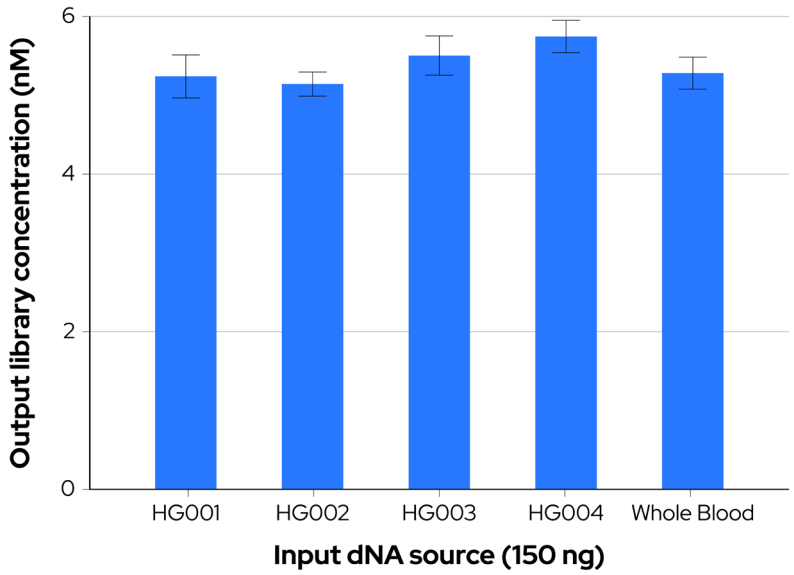
Compatible with wide input DNA range

Callisto generates library concentrations exceeding 2 nM(with qPCR) with input DNA amounts as low as 100 ng. The system also demonstrates compatibility with higher input amounts, supporting DNA masses up to 500 ng, ensuring flexibility across a broad range of sample inputs.



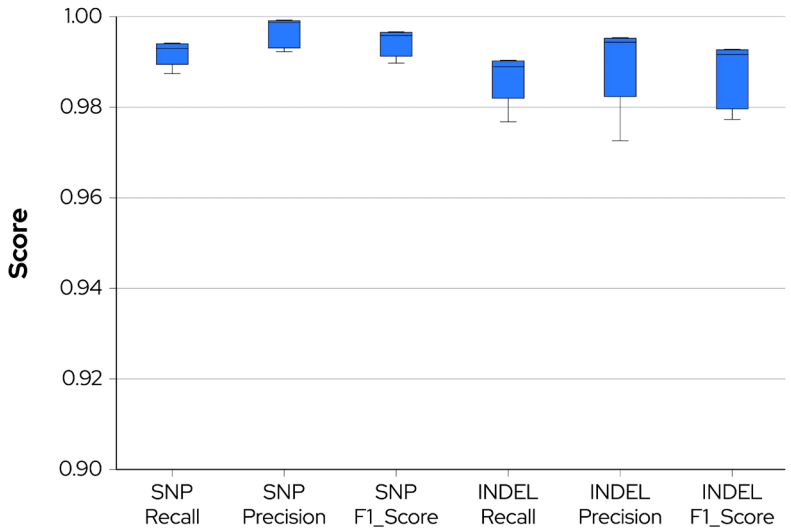
Equivalent yield from various DNA sources

The App is compatible with various input DNA sources yielding about the same concentration of libraries across the DNA types. The output concentrations exceed 2 nM in all cases. The DNA sources include two human reference genomes (HG001, HG002), bacterial DNA (ZymoBIOMICS Microbial Community Standard), and DNA extracted from whole blood (WB).



Robust variant calling performance

Callisto-prepped libraries deliver highly accurate variant calling results across multiple technical replicates (n=5) in SNP and INDEL precision, recall, and F1 scores. Libraries were prepared using HG002 reference DNA and sequenced on Illumina NovaSeq X. Variant calling was performed with NVIDIA Parabricks 4.4.0.1 and benchmarked against the most recent NIST benchmark (HG002_GRCh38_1_22_v4.2.1_benchmark_noinconsistent.bed) using hap.py v0.3.12.



Ordering information

Volta Labs™

Part number	Product	Description
C0001	Callisto™ Sample Prep System	Sample prep instrument
LP0002	Callisto Complete Kit for DNA EF Library Prep (powered by Watchmaker) - 96 rxns	Accessory Kit for 96 reactions
LP0004	Callisto Complete Kit for DNA EF Library Prep (powered by Watchmaker) - 480 rxns, HT	Accessory Kit for 480 reactions

Please contact sales@voltalabs.co to purchase, or scan the QR code to learn more

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