

Advanta CFTR NGS Library Prep Assay



The Advanta™ CFTR NGS Library Prep Assay provides a highly efficient and scalable next-generation sequencing (NGS) library preparation workflow on the automated Juno™ system. Optimized for target enrichment of cystic fibrosis transmembrane conductance regulator (CFTR) variants* from each of the 27 exons and select intronic regions, high-quality NGS-ready barcoded libraries can easily be generated with significantly less hands-on time.

Incorporating Fluidigm microfluidics technology reduces reactions to nanoliter volumes, decreasing your cost per sample. Scalability is simplified, enabling you to generate 48 to 192 samples per run and up to 1,536 sample libraries per week starting with 5–120 ng of genomic DNA derived from blood, saliva or buccal swab. With the flexibility to add assays over time, the Advanta CFTR NGS Library Prep Assay is an ideal solution for molecular profiling.

Highlights

Save time — Achieve consistent results while reducing hands-on time through workflow automation.

Scalable — Sequence dozens to hundreds of barcoded samples in a single run at high read depth.

Cost-effective — Conserve precious reagents by performing reactions at nanoliter scale using microfluidics technology.

Coverage — Target CF-causing variants identified by CFTR2*, including SNPs and large deletions.

A scalable library prep workflow

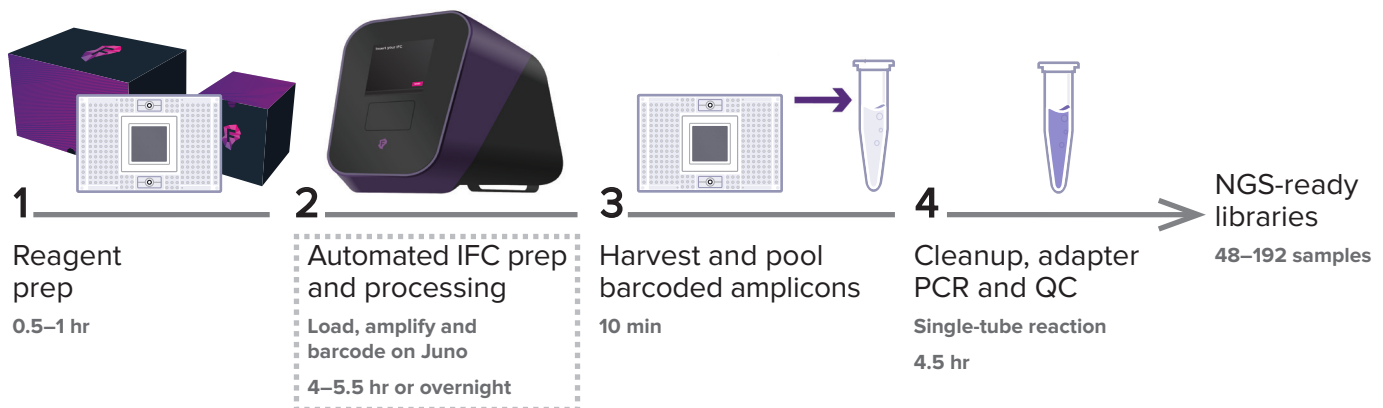


Figure 1. Single run for the targeted DNA sequencing library preparation workflow on Juno. Achieve greater operational efficiency and time savings by running a second integrated fluidic circuit (IFC) on Juno overnight and processing the amplified and barcoded product harvested from multiple Juno runs simultaneously.

*The Clinical and Functional Translation of CFTR (CFTR2); available at cftr2.org; CF-causing variants from CFTR2_8August2016.xlsx

The Juno advantage

The Advanta CFTR NGS Library Prep Assay is optimized to run on the Juno system, which utilizes IFCs to precisely combine multiple reactions at nanoliter volumes. Enabling scalability of both sample throughput and content, the Juno automated library preparation workflow delivers cost-effective performance you can trust with limited hands-on time.



Figure 2. Integrated fluidic circuit (IFC). The LP 48.48 IFC (left) accommodates up to 48 samples per run and generates libraries containing up to 4,800 assays per sample. The LP 192.24 IFC (right) accommodates up to 192 samples per run and generates libraries containing up to 2,400 assays per sample.

Analytical Validation Results**

Attribute	Observed Performance**
Assay pass rate	99.3%
Read depth	≥1,150x
Reads mapped to genome	≥99.9%
Reads mapped to target	≥99.9%
Amplicon uniformity†	99.4%
No template control (NTC) reads	Undetectable
Sensitivity	≥99.1%
Specificity	100%
Accuracy	100%
Reproducibility	100% (blood) ≥99.3% (Coriell samples) ≥98.4% (buccal and saliva)

**Testing conducted by Q² Solutions® | EA Genomics using gDNA from Coriell samples, whole blood, buccal swabs and saliva. Multiple runs, IFCs and replicates per sample.

†Percentage of assays within 5x of the mean reads.

Ordering information

Product Name	Part Number
Advanta CFTR NGS Library Prep Assay—LP 48.48, 2 IFCs	101-6156
Advanta CFTR NGS Library Prep Assay—LP 192.24, 10 IFCs	101-6158
Advanta CFTR NGS Library Prep Assay with Preamp—LP 48.48, 2 IFCs	101-7727
Advanta CFTR NGS Library Prep Assay with Preamp—LP 192.24, 10 IFCs	101-7728

Each assay kit contains targeted DNA sequencing library reagents (including 4X Master Mix, DNA polymerase and adapter mix), CFTR Assay Pools, IFCs and Control Line Fluid.

Additional Materials	Part Number
Targeted DNA Seq Barcode Plates	101-0744
Juno LP 48.48 Barrier Tape—10 Pack	101-2346
Juno LP 192.24 Barrier Tape—10 Pack	101-1825
Targeted DNA Seq Library Adapter Set (optional; supports dual-index sequencing)	101-2412

Each item is sold separately.

For Research Use Only. Not for use in diagnostic procedures.

Information in this publication is subject to change without notice. **Patent and license information:** fluidigm.com/legalnotices. Fluidigm, the Fluidigm logo, Advanta and Juno are trademarks and/or registered trademarks of Fluidigm Corporation in the United States and/or other countries. All other trademarks are the sole property of their respective owners. © 2018 Fluidigm Corporation. All rights reserved. 10/2018 Panel availability subject to confirmation.