

Sequencing of Customer-Prepared Libraries (Walk-Up Sequencing)

Product Overview

Broad Clinical Labs' Walk-Up Sequencing service provides sequencing of customer-prepared libraries, enabling convenient, rapid-turnaround return of high quality data for a variety of sample types. Libraries are typically loaded onto a sequencer within two business days of receipt.

We offer sequencing on the Illumina® NovaSeq X Plus, Pacific Biosciences Revio™, Ultima Genomics UG 100™, and a variety of additional technologies. With decades of sequencing experience and expert staff, we are able to deliver high quality data even for unique or complex library constructs (e.g. adapters requiring custom sequencing primers, or libraries with low base diversity requiring PhiX spike-ins).

Input Requirements

Minimum order quantity is one lane for the Illumina® NovaSeq X Plus 25B, and one flowcell, wafer, or SMRT™ Cell for other sequencing technologies.

- Library volume and concentration (qPCR or Qubit quantification, performed by BCL) must meet specifications outlined in Table 1.

Platform	Minimum Library Volume	Minimum Library Concentration
Illumina® NovaSeq X Plus 25B Single Lane	95µL for 1 lane; 50µL per additional lane	2nM
Illumina® NovaSeq X Plus 25B/10B Flowcell	25B: 400µL 10B: 200µL	2nM
Illumina® NovaSeq 6000 S4/S2/S1/SP Flowcell	S4: 140µL; Other flowcell types: 70µL	2nM
Illumina® MiSeq / NextSeq 500, 2000	20µL	2nM
PacBio Revio™	30µL	5-20ng/µL (varies by library frag. size and quantity)
Ultima Genomics UG 100™	150µL	5nM

Table 1: Samples requirements for customer prepared libraries to be submitted for each platform.

- Ultima Genomics libraries must be created via Ultima's native library prep or converted prior to submission.
- Any library pooling must be completed by the customer prior to submission.
- Index sequence information is required for FASTQ demultiplexing.

What's Included

- Sample kit for library submission
- Library QC, sequencing prep, and sequencing
- Data delivery¹

Data Deliverable

- Data delivery to customer-owned cloud location in Google Cloud, Amazon Web Services, or Terra Workspace

Technologies, Read Lengths, and Reads Delivered

Technology	Minimum Reads	Data Deliverable
Illumina® NovaSeq X Plus 25B Single Lane	≥2.8 billion reads	FASTQ
Illumina® NovaSeq X Plus 25B/10B Flowcell	25B: ≥22 billion reads 10B: ≥6 billion reads	BCL or FASTQ
Illumina® NovaSeq 6000 S4/S2/S1/SP	S4: ≥6 billion reads S2: ≥3 billion reads S1: ≥1 billion reads SP: ≥500 million reads	BCL or FASTQ
Illumina® NextSeq 2000 P3/P2	P3: ≥800 million reads P2: ≥320 million reads	BCL or FASTQ
Illumina® NextSeq 500	≥320 million reads	BCL or FASTQ
Illumina® MiSeq	≥5 million reads	BCL or FASTQ
PacBio Revio™ ²	≥4 million reads	HiFi Unaligned BAM
Ultima Genomics UG 100™ ²	≥8 billion reads	CRAM

¹ Long-term storage, data submission (e.g. to NCBI), and data aggregation is not included.

² Sequencing within two business days of receipt does not apply for PacBio Revio™ and Ultima Genomics UG 100™