

Next Generation Sequencing

Dear VBCF Sequencing User,

The following services are available for academic and commercial customers **from 25. September 2020 onwards**. The table below shows currently available services.

Illumina Library QC:

Services	Unit
Library Quality Control	library
Size analysis	sample/library

Illumina Library Preparation DNA:

Services	Unit
DNA Library preparation (1-24 samples)	sample
DNA Library preparation (24-48 samples)	sample
DNA Library preparation (49-94 samples)	sample
DNA Library preparation, enzymatic shearing (1-24 samples)	sample
DNA Library preparation, enzymatic shearing (24-48 samples)	sample
DNA Library preparation, enzymatic shearing (49-94 samples)	sample
Tagmentation based library prep (1-48 samples)	sample
Tagmentation based library prep (49-88 samples)	sample

Illumina Library Preparation RNA:

Services	Unit
Total RNA Library preparation	sample
mRNA Library preparation, polyA enrichment (1-24 samples)	sample
mRNA Library preparation, polyA enrichment (25-48 samples)	sample
mRNA Library preparation, polyA enrichment (49-94 samples)	sample
RNA Library preparation, rRNA depletion (1-24 samples)	sample
RNA Library preparation, rRNA depletion (25-48 samples)	sample
RNA Library preparation, rRNA depletion (49-94 samples)	sample
QuantSeq 3' mRNA (Lexogen) (1-24 samples)	sample
QuantSeq 3' mRNA (Lexogen) (25-48 samples)	sample
QuantSeq 3' mRNA (Lexogen) (49-94 samples)	sample

Illumina Library Preparation small RNA:

Services	Unit
miRNA library preparation	sample

Illumina Library Preparation Bisulfite, Enzymatic Methyl-seq:

Services	Unit
Bisulfite Library Preparation	sample
EM-seq Library prep	sample

Illumina Single cell sequencing:

Services*	Unit
10X Genomics Library preparation**, scRNA-seq	cell suspension
10X Genomics scATAC-seq	cell suspension
10X VDJ B-cell/T-cell analysis	cell suspension
Smart-seq 2 library prep (1-24 samples)	sample
Smart-seq 2 library prep (25-48 samples)	sample
Smart-seq 2 library prep (49-94 samples)	sample

*Please discuss experiments with the facility prior to sample shipment

**up to 4k cells

Illumina Library Preparation 16S:

Services	Unit
16S library prep Illumina (1-48 samples)	sample
16S library prep Illumina (49-88 samples)	sample

Illumina Sequencing: Spike-In services:

Services	Unit
Spike In experiment (3-6 M reads)	library

Illumina Sequencing: HiSeq 2500

Services	Unit
50bp single read HiSeq 2500*	lane
125bp paired end HiSeq 2500*	lane

* Guaranteed number of independent reads: 190 million

Illumina Sequencing: MiSeq

Services	Unit
MiSeq 150 cycles, V3 chemistry*	flowcell
MiSeq 600 cycles, V3 chemistry*	flowcell
MiSeq 300 cycles, V2 chemistry**	flowcell
MiSeq Micro 300 cycles***	flowcell
MiSeq Nano 300 cycles****	flowcell
MiSeq Nano 500 cycles****	flowcell

*Targeted number of independent reads: 20-25 million

**Targeted number of independent reads: 15 million

***Targeted number of independent reads: 4 million

****Targeted number of independent reads: 1 million

Illumina Sequencing: NextSeq

Services	Unit
NextSeq 550 Mid Output 150 cycles*	flowcell
NextSeq 550 Mid Output 300 cycles*	flowcell
NextSeq 550 High Output 75 cycles**	flowcell
NextSeq 550 High Output 150 cycles**	flowcell
NextSeq 2000 P2 100 cycles**	flowcell
NextSeq 2000 P2 200 cycles**	flowcell
NextSeq 2000 P2 300 cycles**	flowcell

*Targeted number of independent reads: 120 million

**Targeted number of independent reads: 350 million

Illumina Sequencing: NovaSeq

Services	Unit
NovaSeq SP 100 cycles ^a	flowcell
NovaSeq SP 200 cycles ^a	flowcell
NovaSeq SP 300 cycles ^a	flowcell
NovaSeq SP 500 cycles ^a	flowcell
NovaSeq S1 100 cycles ^b	flowcell
NovaSeq S1 200 cycles ^b	flowcell
NovaSeq S1 300 cycles ^b	flowcell
NovaSeq S2 100 cycles ^c	flowcell
NovaSeq S2 200 cycles ^c	flowcell
NovaSeq S2 300 cycles ^c	flowcell
NovaSeq S4 200 cycles ^d	flowcell
NovaSeq S4 300 cycles ^d	flowcell

^a Targeted number of independent reads: 750 million

^b Targeted number of independent reads: 1500 million

^c Targeted number of independent reads: 3800 million

^d Targeted number of independent reads: 9000 million

PacBio Library Preparation:

Services*	Unit
Pac Bio initial QC (DNA)	sample
Pac Bio initial QC (RNA)	sample
Bluepippin Sizeselection	sample
Library Preparation PacBio DNA, large insert	sample
Library Preparation PacBio RNA (Iso-seq)	sample
Library Preparation PacBio RNA (Iso-seq) Multiplexing (2samples)	2 samples
Lexogen TeloPrime RNA	sample
Amplicon - Multiplexing 2-8 samples	2-8 sample
cDNA /Small Insert- Library Preparation	sample
16S Amplification (1-24 samples)	sample
16S Amplification (24-48 samples)	sample
Microbial multiplexing (up to 8 samples)	2-8 samples

*Please discuss experiments with the facility prior to sample shipment

PacBio Sequel Sequencing:

Services**	Unit
Sequel - SMRT cell 10hours	SMRT cell
Sequel - SMRT cell 20hours*	SMRT cell
Sequel II - SMRT cell 15hours	SMRT cell
Sequel II - SMRT cell 30hours*	SMRT cell

*Recommended only for large amplicons and Isoseq-applications.

Nanopore Preparation & Sequencing:

Services*	Unit
initial QC (DNA)	sample
initial QC (RNA)	sample
Library Preparation ONT Large Insert	sample
Library Preparation ONT Small Insert	sample
Library Preparation ONT Ultra Long Reads	sample
Library Preparation ONT Multiplexing (<12 samples)	sample
Nanopore Sequencing	MinION flowcell

Bioinformatics:

Services*	Unit
Demultiplexing	multiplex
Alignment (RNA-seq, ChIP-seq, ATAC-seq, miRNA-seq)	sample
RNA-seq Differential Gene Expression	1 st comparison
RNA-seq Differential Gene Expression	each additional comparison
ChIP-seq Peak calling	sample
ATAC-seq Peak calling	sample
SNP alignment & calling	sample
Differential SNP analysis	comparison
RNA-seq smart-seq 2	plate
10X Genomics sc-RNA Analysis	sample
Assembly small (<500Mb)	sample
Assembly HiFi Reads	sample
Assembly comparison and annotation transfer	comparison
Iso-seq pipeline	sample
Transcriptome comparison	comparison
Amplicon CCS pipeline	sample

* Detailed service descriptions can be found in Forskalle

