High Throughput Sequencing – Illumina platforms

HiSeq2500

- **Specifications**
  - **High Output mode – v4**
    - 50-125bp reads
    - Single read or paired end
    - 8 lanes per flow cell
    - up to 400 Gigabases per run (v4)
    - up to 250 millions reads per lane
    - 5 days per run (2x100bp)
    - £1,606 per lane (2x100bp – v4)*
    - £750 per lane (1x50bp)
  - **Rapid mode**
    - 50-250bp reads
    - Single read or paired end
    - 2 lanes per flow cell
    - up to 50 Gigabases per run
    - up to 150 millions reads per lane
    - 3 days per run (2x250bp)
    - £2,650 per lane (2x250bp)*
    - £2,200 per lane (2x150bp)
- **Applications**
  - Whole genome re-sequencing
  - Whole methylome sequencing
  - RNA-seq
  - ChIP-seq
  - Exome sequencing
  - Targeted re-sequencing
- **Run Quality Metrics**

MiSeq

- **Specifications**
  - 50-300bp reads
  - Single read or paired end
  - 1 lane per flow cell
  - up to 7 Gigabases per run
  - up to 20 millions reads per run
  - 48 hours run (2x300bp)
  - £800-1000 per run*
- **Applications**
  - Small genomes re-sequencing
  - Small RNA sequencing
  - Amplicon sequencing
  - Targeted re-sequencing
- **Run Quality Metrics**

Short-hairpin RNA library clone picking service$^

We host the Dharmacon GIPZ Lentiviral short-hairpin RNA (shRNA) libraries for Human and Mouse. The libraries provide a RNA tool capable of producing RNA interference with powerful viral delivery for targeting highly characterized genes in the human and mouse genomes. Selected clones can be picked and cultured on demand.

High Throughput Sequencing – Library prep service$

- **RNA-seq** library prep using Truseq or NEB kits ~£45 per sample*
- **DNA-seq** libraries using Truseq kit ~£45 per sample* Other applications on demand
- **Amplicon-seq** using PCR * Prices accurate in 2017, subject to changes

Single-cell analysis

- Fluidigm microfluidics C1 System and Biomark

Open access equipment

- **Bioanalyser** DNA and RNA quality assessment
- **Nanodrop and Qubit** nucleic acid quantitation
- **Quantitative PCR machines** ABI 7500Fast and ABI 7900HT
- **Biomek Fx robot** Automated liquid handling

Bioinformatics and Computing Support

We work closely with the LMS Computing and Bioinformatics group for data management and analysis.

- NGS data processing and analysis – QC, demultiplexing, alignment and downstream analysis.
- Dedicated Isilon File store for NGS data storage and data archiving at Imperial HPC
- LMS Bioinformatics Group contacts: Marian Dore, Gopu Dharmalingam, Sanjay Khadayate, Yi-Fang Wang

Recent Publications

- Complete multi-allelic variants explored by genome architecture mapping
- The development of mouse models of highly inflammatory skin disorders
- Development of an murine model for rheumatoid arthritis

Contact details

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