# Sequencing Core Facility at the ICON

## Overview:

The Sequencing Core Facility at ICON provides state-of-the-art infrastructure for next-generation sequencing (NGS) using the Illumina MiSeq i100 Plus benchtop sequencing system.

The facility supports researchers by offering:

- Access to sequencing instrumentation
- Library quality control (QC) equipment
- Essential laboratory infrastructure for NGS workflows
- Technical guidance and support upon request

Our goal is to ensure reliable, high-quality sequencing results within a user-friendly, self-service environment.

## Equipment Available (Room S 02.014):

### Sequencing Platform

1. **MiSeq i100 Plus, Illumina**

**Typical applications include:**

- ❖ Amplicon sequencing (e.g., 16S or ITS)
- ❖ Small genome sequencing
- ❖ Targeted sequencing panels
- ❖ Pilot NGS experiments

Capabilities:

- Flow cells: 5M, 25M, 50M, 100M
- Typical read length:
    - Single-end: up to 1 x 100 bp
    - Paired-end: typically 2 x 150 bp or 2 x 300 bp
- Expected output: approx. 1,5 – 30 Gb per run
- Typical run time: approx. 4 – 24 hours

## Library Quality Control

To ensure high-quality libraries prior to sequencing, the facility provides access to the following QC instruments:

1. **Agilent 4150 TapeStation System**

**Kits available at the Core Facility:**

- High Sensitivity D1000 DNA
- High Sensitivity D5000 DNA
- High Sensitivity RNA

Used for determining fragment size distribution and assessing DNA/RNA library quality.

The 4150 TapeStation is a cost-effective, low-throughput automated electrophoresis system based on ScreenTape technology. It enables fast, reliable analysis of up to 16 samples per run and is well suited for:

- NGS library QC
- Biobank workflows
- Vaccine development projects

A range of ScreenTape consumables is available for QC of RNA, DNA, genomic DNA, and cell-free DNA.

https://www.agilent.com/cs/library/datasheets/public/datasheet_dna-rna-sample-quality-tapestation-consumables-5994-0264EN-agilent.pdf

2. **Qubit 4 Fluorometer**

*Used for precise and sensitive quantification of DNA and RNA prior to sequencing.*

**Kit available at the Core Facility:**

- Qubit 1x dsDNA HS Assay Kit, 0,1 – 120 ng

## Consumables and Laboratory Infrastructure

- Standard laboratory infrastructure and basic consumables (e.g., pipettes and plasticware) are provided by the facility.
- **Flow cells and sequencing reagents must be purchased by the user** and brought to the facility for the sequencing run.
- Users are responsible for selecting compatible reagents and consumables.
- Advice and support can be provided upon request.

## Contact

For questions or scheduling, please contact:

**Heike Kartmann**

kartmann@med.uni-muenchen.de

**Dr. med. Daniel Reichart**

daniel.reichart@med.uni-muenchen.de

## Terms of Use

- All instruments are operated in **self-service mode**.
- Access is granted only after successful training by facility staff and is subject to applicable usage fees.
- Users are responsible for the correct and careful operation of all equipment and must follow operating procedures and safety guidelines.
- Users are responsible for the quality and integrity of their libraries.
- Only compatible sequencing reagents and consumables may be used.
- Sequencing runs must be scheduled in advance via the booking system or through the responsible contact person.
- Reserved time slots must be used responsibly. Cancellations or delays should be communicated as early as possible.
- Any malfunction, irregularity, or damage must be reported immediately.
- Users may be held liable for damage resulting from improper use or negligence.

## Data Storage Policy

- Sequencing data will be provided in standard formats (e.g., FASTQ).
- The facility provides **temporary data storage only** and does not guarantee long-term archiving.
- Users are responsible for promptly downloading and securely backing up their data

## Acknowledgement

Users are kindly requested to acknowledge the facility in publications:

"Sequencing was performed at the LMU ICON Sequencing Core Facility."

## Usage Fees

The following fees (EUR/h) apply from 12/2025 until further notice:

Category A: ICON employees

Category B: academic users outside the ICON

Category C: non-academic users

| Instrument | mode | Costs Euro | | | Cancellation | |
|---|---|---|---|---|---|---|
| | | Cat A | Cat B | Cat C | Policy | Costs |
| MiSeq i100 Plus | Self operated | 5 per 4 h run<br>+<br>50 cent per every additional hour (max. 15 € per run) | 10 per 4 hour run<br>+<br>50 cent per every additional hour (max. 20 € per run) | 25 per 4 hour run<br>+<br>1 € per every additional hour (max. 55 € per run) | <24h<br><6h | 25%<br>50% |
| | | | | | | |

Booked sessions that are not used (=forgotten about/forgotten to cancel) are fully charged with the 4h fee.

Cancellation fees do only apply if the slot is not picked up by other users. Moving of sessions within the same workday remains free of charge. Cancellations that are necessary due to validated instrument incidents, or relevant other cases of hardship, remain free of charge upon notification.

| Instrument | mode | Costs Euro<br>Optical strip | Costs Euro<br>Consumables | Costs Euro<br>Reagents |
|---|---|---|---|---|

| | | + cap, 8er | Per sample | Per sample |
|---|---|---|---|---|
| **Agilent TapeStation** | Self operated | 1,50 * | 0,50** | • 4,80 (HS DNA)<br>• 4,40 (HS RNA) |

*Each TapeStation run requires an Optical 8-tube strip including 8-strip caps. One strip must be used regardless of the number of samples loaded.

For more than 8 samples additional strips are required:

| Number of samples | Strip cost |
|---|---|
| 1 – 8 samples | € 1,50 |
| 9 – 16 samples | € 3,00 |
| 17 – 24 samples | € 4,50 |

** Special sample loading tips are required

| Instrument | mode | Costs Euro/sample |
|---|---|---|
| **Qubit 4** | Self operated | 1,30 |