

# **Rahmennutzungsordnung für Core Facilities an der Universität Heidelberg**

Der Senat hat in seiner Sitzung am 05.12.2023 diese Rahmennutzungsordnung für Core Facilities an der Universität Heidelberg beschlossen.

## **§ 1 Präambel**

Core Facilities an der Universität Heidelberg sind zentrale oder in wissenschaftliche Einrichtungen eingebundene, gemeinschaftlich genutzte Forschungsinfrastrukturen, die einen Zugang zu Großgeräten oder Gerätezentren, speziellen Technologien und damit verbundenen Dienstleistungen und Beratungsangeboten sowie weiteren Services für Wissenschaftler\*innen ermöglichen. Dabei ist die Nutzung der Infrastruktur durch alle Universitätsmitglieder möglich, unter gewissen Voraussetzungen auch durch externe Dritte.

Diese Rahmennutzungsordnung regelt die grundsätzlichen Bestimmungen, die für den Betrieb jeder Core Facility gelten. Sie ersetzt alle bisher existierenden Nutzungsregelungen für Core Facilities.

## **§ 2 Aufgaben und Services**

Der Leiter/die Leiterin einer jeden Core Facility hat für den Betrieb seiner/ihrer Einrichtung eine Einzelnutzungsvereinbarung zu erstellen, in der die über diese Rahmennutzungsordnung hinausgehenden jeweiligen Aufgaben und Services sowie die Höhe der von den Nutzer\*innen zu erbringenden Entgelte festgelegt werden.

### § 3 Leitung

(1) Der Leiter/die Leiterin einer jeden Core Facility wird vom Institutsdirektorium bzw. der Einrichtungsleitung bestellt und ist verantwortlich für

- a) die Erstellung einer Einzelnutzungsvereinbarung für die Nutzung der Core Facility,
- b) den gesamten Betriebsablauf und die sachgemäße Erledigung der Aufgaben,
- c) die Erstellung der Abrechnungen und Anforderungen der Nutzungsentgelte,
- d) den Nachweis über die Verwendung der der Core Facility ggf. zugewiesenen Mittel,
- e) Bemühungen um Zuwendungen Dritter,
- f) die Anpassung der Core Facility an veränderte Anforderungen und
- g) Angelegenheiten der Nutzung der Core Facility wie
  - Entscheidungen über die Zulassung von Nutzer\*innen gemäß §§ 4 und 5,
  - die Koordination und Abstimmung von Forschungsaktivitäten,
  - die Beratung der Nutzer\*innen der Core Facility.

(2) Im Rahmen der Aufgaben der Core Facility ist der Leiter/die Leiterin gegenüber dem Personal und den Nutzer\*innen in allen Belangen der operativen Nutzung weisungsberechtigt.

(3) Auf Vorschlag des Leiters/der Leiterin der Core Facility bestellt das Institutsdirektorium bzw. die Einrichtungsleitung zu seiner/ihrer Unterstützung und Vertretung einen Stellvertreter/eine Stellvertreterin.

## **§ 4 Nutzer**

Als Nutzer\*in der Core Facilities können zugelassen werden:

- a) Mitglieder der Universität Heidelberg, die die Leistungen der Core Facility zur Erfüllung ihrer Dienstaufgaben in Forschung und Lehre oder im Rahmen ihres Studiums in Anspruch nehmen.
- b) Externe öffentliche Einrichtungen können aufgrund vertraglicher Vereinbarung als Nutzer\*in der Core Facility zugelassen werden, sofern hierdurch die Belange der unter a) genannten Nutzer\*innen nicht unbillig beeinträchtigt werden.
- c) Externe private Einrichtungen können aufgrund vertraglicher Vereinbarung als Nutzer\*in der Core Facility zugelassen werden, sofern hierdurch die Belange der unter a) und b) genannten Nutzer\*innen nicht unbillig beeinträchtigt werden.

## **§ 5 Zulassung zu einer Core Facility**

(1) Die Zulassung zu einer Core Facility erfolgt über den Leiter/die Leiterin der jeweiligen Core Facility. Nur zugelassene Nutzer\*innen haben Zugang zu den Räumen und Geräten.

(2) Vor Beginn der Nutzung hat jeder/jede interne wie auch externe Nutzer\*in die von ihm/ihr unterschriebene Einzelnutzungsvereinbarung vorzulegen. Bei Bedarf erfolgt eine Einweisung, insbesondere dann, wenn die Nutzung nicht im Servicebetrieb erfolgt.

## **§ 6 Pflichten der Nutzer**

Die Nutzer\*innen sind verpflichtet,

- a) die Regelungen dieser Rahmennutzungsordnung einzuhalten,
- b) die Vorschriften der Einzelnutzungsvereinbarung einzuhalten, insbesondere alles zu unterlassen, was den ordnungsgemäßen Betrieb der Core Facility stört,
- c) mögliche Schäden und Funktionsstörungen dem Personal der Core Facility unverzüglich zu melden,
- d) in den Räumen der Core Facility sowie bei Inanspruchnahme ihrer Geräte und sonstigen Einrichtungen den Weisungen des Personals der Core Facility Folge zu leisten,
- e) das Personal der Core Facility über das Bestehen von Sicherheitsrisiken im Zusammenhang mit dem Versuchsmaterial aufmerksam zu machen (insbesondere Biosafety Regulations; Gefahrstoffe),
- d) falls erforderlich den Nachweis entsprechender Meldungen und Genehmigungen von Forschungsvorhaben und Versuchen zu führen (insbesondere Exportkontrolle, Ethikvotum, Konsultation Ethikkommission hinsichtlich Dual Use, Strahlenschutz),
- f) falls erforderlich Personal mit den entsprechenden Befugnissen zur Durchführung der Experimente zur Verfügung zu stellen und
- g) die Arbeit der Core Facility bei Veröffentlichungen angemessen zu berücksichtigen.

## **§ 7 Haftung**

(1) Die Haftung der Universität ist gegenüber Nutzer\*innen auf Vorsatz und grobe Fahrlässigkeit beschränkt. Diese Haftungsbeschränkung gilt nicht für Personenschäden sowie bei Verletzung von Kardinalpflichten durch die Universität. Die Core Facility übernimmt keine Gewährleistung für das Versuchsmaterial oder für den Schutz von Daten vor Verlust nach deren Übergabe an den Nutzer/die Nutzerin.

(2) Nutzer\*innen haften jeweils nach Maßgabe der gesetzlichen Vorschriften. Das gilt insbesondere für Schäden, die durch Nichtbefolgung der den Nutzer\*innen obliegenden Pflichten, durch Nichtaufklärung über Sicherheitsrisiken oder durch Nichtbefolgung verbindlicher Weisungen des Personals verursacht werden.

## **§ 8 Ausschluss und Beschränkung der Nutzung**

- (1) Die Nutzungszulassung kann insbesondere versagt, widerrufen oder nachträglich beschränkt werden, wenn
- a) keine vom Nutzer/von der Nutzerin unterschriebene Einzelnutzungsvereinbarung für die Core Facility vorgelegt wird,
  - b) die vom Nutzer/von der Nutzerin gemachten Angaben zur Nutzung nicht oder nicht mehr zutreffen,
  - c) das festgesetzte Nutzungsentgelt nicht entrichtet wird oder
  - d) der Nutzer/die Nutzerin gegen diese Rahmennutzungsordnung für Core Facilities oder Weisungen des Leiters der jeweiligen Core Facility verstößt und weitere Verstöße zu befürchten sind.
- (2) Dem Nutzer/der Nutzerin stehen Schadensersatzansprüche aufgrund der Versagung, des Widerrufs oder der nachträglichen Beschränkung der Zulassung nicht zu.

## **§ 9 Entgelt**

- (1) Die Core Facilities erheben für die genannten Leistungen von den Nutzer\*innen ein (Netto-)Entgelt, das sich grundsätzlich (Ausnahmen siehe unten) zusammensetzt aus:
- a) Einzelkosten (z.B. für Personal, Material)
  - b) Overhead (berechnet als Prozentsatz der Einzelkosten, dient der Abdeckung u.a. von Energie-, Gebäudeinstandhaltungs-, Verwaltungskosten)
  - c) Gewinn (berechnet als Prozentsatz der Summe aus Einzelkosten und Overhead)
- (2) Die Höhe des Entgelts legt der Leiter/die Leiterin der Core Facility im Einklang mit den DFG-Richtlinien und den Vorgaben des Rektorats in der Einzelnutzungsvereinbarung fest. Er/Sie überprüft diese jährlich und passt sie bei Bedarf der Kostenentwicklung entsprechend an.
- (3) Die Nutzung der Core Facilities durch interne Nutzer\*innen wird ohne Overhead und Gewinn in Rechnung gestellt.

(4) Die Nutzung durch externe inländische öffentlich-rechtliche Nutzer\*innen kann frei von Overhead und Gewinn in Rechnung gestellt werden, sofern es sich um eine nichtwirtschaftliche Tätigkeit i.S.d. Nr. 2.1.1 des Unionsrahmens für staatliche Beihilfen zur Förderung von Forschung, Entwicklung und Innovation (2014/C 198/01 im Folgenden FuEul genannt) und nicht um Auftragsforschung oder Dienstleistungen für Unternehmen oder sonstige Tätigkeiten i.S.d. wirtschaftlichen Tätigkeiten nach Nr. 2.1.2 FuEul handelt. Dies ist insbesondere in folgenden Fällen gegeben:

- unabhängige FuEul zur Erweiterung des Wissens und für Forschungszwecke, auch im Verbund,
  - weite Verbreitung der Forschungsergebnisse auf nichtausschließlicher und nichtdiskriminierender Basis, zum Beispiel durch Lehre, frei zugängliche Datenbanken, allgemein zugängliche Veröffentlichungen oder offene Software,
  - Tätigkeiten des Wissenstransfers, soweit sie entweder durch die Forschungseinrichtung oder gemeinsam mit anderen Forschungseinrichtungen oder in deren Auftrag durchgeführt werden,
  - für Ausbildungszwecke,
- die forschende Stelle wird hoheitlich tätig, d.h. sie kommt einem gesetzlichen Auftrag nach.

Andernfalls liegt eine wirtschaftliche Tätigkeit vor und externe öffentlich-rechtliche Nutzer\*innen sind wie private Nutzer\*innen zu behandeln, siehe (6).

(5) Auf die Einzelkosten wird bei einer Nutzung durch externe inländische private Nutzer\*innen ein Overheadsatz in Höhe von 60 % und auf die sich ergebende Summe aus Einzelkosten und Overhead ein Gewinnaufschlag in Höhe von 5 % aufgeschlagen, sofern es sich um eine Nutzung außerhalb einer Kooperation mit der Universität handelt. Der Gewinnaufschlag ergibt sich aus der Verpflichtung der Universität auf Erstellung einer Trennungsrechnung auf Vollkostenbasis.

(6) Sofern es sich um eine Nutzung externer inländischer privater oder ausländische öffentliche und private Nutzer\*innen im Rahmen eines bestehenden Kooperationsvertrages mit der Universität handelt, bleiben die hierin vereinbarte Regelungen zu Overhead und Gewinn bestehen.

(7) Auf die Einzelkosten wird bei einer Nutzung durch ausländische Nutzer\*innen außerhalb einer Kooperation in jedem Fall ein Overheadsatz in Höhe von 60 % und auf die sich ergebende Summe aus Einzelkosten und Overhead ein Gewinnaufschlag von 5 % aufgeschlagen.

(8) Alle Entgelte verstehen sich als Nettobetrag und sind zuzüglich der geltenden Umsatzsteuer zu verstehen, sofern diese gesetzlich geschuldet ist.

## **§ 10 Datensicherung und Lagerung**

(1) Alle Daten einschließlich der Primärdaten sind Eigentum der Nutzer\*innen. Die unmittelbare Speicherung der akquirierten Messdaten erfolgt auf den jeweiligen Aufnahme-PCs. Diese Roh-Daten werden mit den dazugehörigen Auswertungen auf Servern des Instituts bzw. der Einrichtung oder des Rechenzentrums der Universität Heidelberg archiviert.

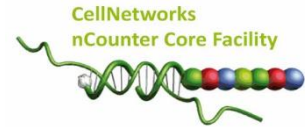
(2) Die Core Facilities lagern die Daten der ausgewerteten Analysen und die entsprechenden Rohdaten für einen Zeitraum von mindestens zwei Monaten. Nutzer\*innen sind für eine langfristige Lagerung ihrer Daten außerhalb der Core Facility selbst verantwortlich.

## **§ 11 Inkrafttreten**

Diese Rahmennutzungsordnung für Core Facilities tritt am Tag nach der Veröffentlichung im Mitteilungsblatt der Rektorin in Kraft.

Heidelberg, den 12.12.2023

gez. Prof. Dr. Frauke Melchior  
Rektorin



## Individual User Agreement for the nCounter Core Facility

This Individual User Agreement is based on the General User Regulations for Core Facilities of Heidelberg University, which came into force on December 5<sup>th</sup>, 2023. The provisions contained therein apply without further restriction to the use of this Core Facility, with the exception of § 9 (5) and (7) of the deviating overhead regulation of the Heidelberg University Hospital of 40% until further notice.

In addition, the following is agreed:

### § 1: Type of Services

The nCounter Core Facility (<https://t1p.de/nCounter-Core-Facility>) offers service on an 800+ mRNA, miRNA and CNV expression profiling in one sample using the 'nCounter SPRINT Profiler' analysis system and a morphology-driven, multi-omics profiling on FFPE or fresh frozen tissue sections using the 'GeoMx Digital Spatial Profiler', both from nanoString (<http://www.nanoString.com/>). In addition, the facility offers 'Quality Control Only analysis' for RNA and DNA samples.

The nCounter Core Facility is listed in the research infrastructure portal 'RIsources' from the DFG (RI\_00563). In case of a DFG grant application, please feel free to add the RI number.

**Our service comprises:**

#### (1) nCounter SPRINT Profiler expression analysis

1. Support of project planning
2. Quality control (QC) of input material
3. Performance of nCounter SPRINT Profiler experiment
4. QC of generated data and data delivery
5. Temporary data and sample storage
6. Support in data analysis applying the nanoString nSolver software
7. *in case of cooperation\*: data analysis and provision of results*

#### (2) GeoMx Digital Spatial Profiler analysis

1. Support of project planning together with nanoString
2. Technical assistance
3. Performance of nCounter SPRINT Profiler protein or RNA readout
4. Data delivery
5. Temporary data and sample storage

#### (3) Quality Control Only (RNA/DNA)

1. Support of project planning
2. Performance of TapeStation or/and Qubit analysis
3. Data delivery
4. Temporary data and sample storage

### § 2: Facility Usage

- (1) If the customer assigns for 'nCounter SPRINT Profiler expression analyses' or 'Quality Control Only' analyses, these are carried out exclusively by employees of the nCounter Core Facility as described in § 6 General Guidelines 'nCounter SPRINT expression profiling' and 'Quality Control Only'.
- (2) If the customer assigns 'GeoMx Digital Spatial Profiler analyses', these are carried out partially by the customer themselves with technical support by employees of the nCounter Core Facility as described in § 6 General Guidelines 'GeoMx Digital Spatial Profiler analysis'.



We would like to point out that third parties are not permitted to use the facility's rooms without the consent of the nCounter Core Facility staff. It is also expressly forbidden to use the facility's equipment without prior instruction from trained nCounter Core Facility staff.

With regard to the 'nCounter SPRINT Profiler expression analysis' and the 'Quality Control Only analysis', samples are processed according to the sample receipt. A usage calendar is available on the ilabs platform for the use of the GeoMx Digital Spatial Profiler, which all registered customers can access in order to avoid overbooking.

In the event of a system failure during use, customers will be informed immediately by email. Incidents are documented by the nCounter Facility staff.

### § 3: Contact Details:

#### Head (scientific contact person):

Dr. rer. nat. Stefanie Schmitteckert  
Institute of Human Genetics  
Im Neuenheimer Feld 366  
69120 Heidelberg  
[stefanie.schmitteckert@med.uni-heidelberg.de](mailto:stefanie.schmitteckert@med.uni-heidelberg.de)

#### Senior Field Application Specialist (technical contact person):

Dipl. Ing. Ralph Röth  
Institute of Human Genetics  
Im Neuenheimer Feld 366  
69120 Heidelberg  
[ralph.roeth@med.uni-heidelberg.de](mailto:ralph.roeth@med.uni-heidelberg.de)  
[ncounter@med.uni-heidelberg.de](mailto:ncounter@med.uni-heidelberg.de)

For requests, orders, questions, project planning, etc. please contact Ralph Röth.

### § 4: Starting a Project

To start a project at the nCounter Core Facility, the customer has first to register on the request and booking system iLab ([iLabs nCounter Core Facility site](#)) and has to request a consultation. Thereafter, a meeting will be organized with nCounter Core Facility staff (and nanoString) to assess the feasibility of the project and to discuss next steps. In general, before a project can be started for institutions that are not part of the Heidelberg Medical Faculty a contract has to be set up, which is processed by the legal department of the Heidelberg University Hospital.

All further steps will be handled via the iLabs platform. Further information on our workflow and samples and data management can be found in § 6 General Guidelines.

### § 5: Service Fees

Consultation, project discussions and planning are free of charge. For projects to be carried out at the nCounter Core Facility, four different charging systems are offered:

1. Internal <sup>1</sup>
2. External Academia <sup>2</sup>
3. External Commercial Organizations <sup>3</sup>
4. Cooperation (nCounter SPRINT Profiler: data analysis, provision of results, two co-authorships; GeoMx Digital Spatial Profiler: advanced technical support, two co-authorships) <sup>2,3</sup>

<sup>1</sup> Internal user are all members of Heidelberg University, Heidelberg/Mannheim Medical Faculty and Heidelberg University Hospital

<sup>2</sup> External academia users have to pay 19% VAT

<sup>3</sup> External commercial users have to pay a 40% Overhead and 19% VAT

Depending on the number of samples to be analysed, the nCounter Core Facility may offer a service fee reduction for all four charging systems.

Prior to making use of the facility's services, the customer will receive a quotation. Prices are calculated in accordance with the General User Regulations (according to DFG guidelines) and are based on current costs for consumables and other expenses (personnel, upgrades, infrastructure, booking system) depending on the respective charging system. The nCounter Core Facility reserve the right to make changes. If the costs will be predictably higher than initially estimated, the project will be halted and the responsible PI and user will be notified for further considerations.

### (1) Service Fees - nCounter SPRINT Profiler expression analysis (01.06.2024)

nCounter Core Facility	
SPRINT Profiling and Sample QC Service Charges	
Sprint RNA Gene Expression Service Charges	
<i>Charges per 1 Assay (netto)<sup>1</sup></i>	
Cooperation Partner	75,80 €
Internal <sup>2</sup>	97,50 €
External Academia <sup>3</sup>	128,40 €
External Commercial Organisations <sup>4</sup>	140,90 €
Sprint miRNA / miRGE Expression Service Charges	
<i>Charges per 1 Assay (netto)<sup>1</sup></i>	
Cooperation Partner	78,60 €
Internal <sup>2</sup>	100,30 €
External Academia <sup>3</sup>	128,30 €
External Commercial Organisations <sup>4</sup>	140,70 €
Sprint DNA Applications Service Charges	
<i>Charges per 1 Assay (netto)<sup>1</sup></i>	
Cooperation Partner	75,70 €
Internal <sup>2</sup>	97,40 €
External Academia <sup>3</sup>	128,30 €
External Commercial Organisations <sup>4</sup>	140,70 €
Sprint Low RNA Input Service Charges (without MTE)	
<i>Charges per 1 Assay (netto)<sup>1</sup></i>	
Cooperation Partner	75,70 €
Internal <sup>2</sup>	97,40 €
External Academia <sup>3</sup>	128,30 €
External Commercial Organisations <sup>4</sup>	140,70 €
Sprint Low RNA Input Service Charges (with MTE)	
<i>Charges per 1 Assay (netto)<sup>1</sup></i>	
Cooperation Partner	78,00 €
Internal <sup>2</sup>	99,70 €
External Academia <sup>3</sup>	130,60 €
External Commercial Organisations <sup>4</sup>	146,10 €

Sprint Elements RNA/DNA Service Charges	
	<i>Charges per 1 Assay (netto)<sup>1</sup></i>
<i>Cooperation Partner</i>	78,00 €
Internal <sup>2</sup>	99,70 €
External Academia <sup>3</sup>	130,60 €
External Commercial Organisations <sup>4</sup>	146,10 €
Sprint PlexSet Titration RNA/DNA Service Charges	
	<i>Charges per 1 Assay (netto)<sup>1</sup></i>
<i>Cooperation Partner</i>	71,10 €
Internal <sup>2</sup>	92,80 €
External Academia <sup>3</sup>	123,70 €
External Commercial Organisations <sup>4</sup>	131,30 €
Sprint PlexSet RNA/DNA Service Charges	
	<i>Charges per 1 Assay (netto)<sup>1</sup></i>
<i>Cooperation Partner</i>	71,60 €
Internal <sup>2</sup>	93,30 €
External Academia <sup>3</sup>	124,20 €
External Commercial Organisations <sup>4</sup>	132,30 €
Elements Master Probe Pooling Service Charges	
<i>Pooling Probe A and B</i>	<i>Charges per TagSet Size (netto)<sup>5</sup></i>
12 Probes	14,90 €
24 Probes	16,30 €
36 Probes	17,90 €
48 Probes	18,60 €
60 Probes	24,90 €
72 Probes	26,40 €
84 Probes	28,10 €
96 Probes	29,20 €
Quality Control Service Charges	
<i>TapeStation</i>	<i>Charges per Sample (netto)<sup>6</sup></i>
TapeStation RNA Analysis (RNA Screen)	7,60 €
TapeStation RNA Analysis (HS RNA Screen)	8,20 €
TapeStation DNA Analysis (D1000 Screen)	6,80 €
TapeStation DNA Analysis (HS D1000 Screen)	7,50 €
TapeStation DNA Analysis (D5000 Screen)	8,10 €
TapeStation DNA Analysis (HS D5000 Screen)	8,50 €
TapeStation DNA Analysis (Genomic DNA Screen)	9,70 €
<i>Qubit</i>	<i>Charges per Sample (netto)<sup>6</sup></i>
Qubit RNA Analysis (HS Kit)	5,80 €
Qubit RNA Analysis (BR Kit)	6,00 €
Qubit RNA Analysis (micro Kit)	5,90 €

Qubit DNA Analysis (HS Kit)	5,80 €
Qubit DNA Analysis (BR Kit)	6,00 €
<i>Nanodrop</i>	<i>Charges per Sample (netto)<sup>6</sup></i>
Nanodrop Analysis	4,50 €

<sup>1</sup> Service charges valid for 1-24 samples. For sample size larger than 24 samples, the service charges are reduced depending on the number of samples.

<sup>2</sup> Internal users: Invoice without VAT

<sup>3</sup> External academia users: Invoice +19% VAT

<sup>4</sup> External commercial users: Invoice and +19% VAT (netto price includes 40% overhead)

<sup>5</sup> Elements Master Probe Pooling will be additional charged to service fees according to <sup>2,3</sup> and <sup>4</sup>

<sup>6</sup> QC will be additional charged to service fees according to <sup>2,3</sup> and <sup>4</sup>

MTE: multi-target enrichment

## (2) Service Fees - GeoMx Digital Spatial Profiler analysis (01.06.2024)

nCounter Core Facility	
Service Charges for GeoMx Spatial Expression Profiling	
GeoMx Technical Support Scan only	
	<i>Charges per 1 Scan (netto)<sup>1</sup></i>
<i>Cooperation Partner</i>	90,40 €
Internal <sup>2</sup>	120,50 €
External Academia <sup>3</sup>	135,60 €
External Commercial Organisations <sup>4</sup>	189,90 €
GeoMx Technical Support RNA/Protein Profiling with NGS Readout	
	<i>Charges per 1 Scan (netto)<sup>1</sup></i>
<i>Cooperation Partner</i>	90,40 €
Internal <sup>2</sup>	120,50 €
External Academia <sup>3</sup>	135,60 €
External Commercial Organisations <sup>4</sup>	189,90 €
GeoMx Protein Profiling with SPRINT Readout	
	<i>Charges per 1 Readout (netto)<sup>5</sup></i>
<i>Cooperation Partner</i>	346,40 €
Internal <sup>2</sup>	376,50 €
External Academia <sup>3</sup>	391,60 €
External Commercial Organisations <sup>4</sup>	710,00 €
GeoMx RNA Profiling with SPRINT Readout	
	<i>Charges per 1 Readout (netto)<sup>5</sup></i>
<i>Cooperation Partner</i>	335,40 €
Internal <sup>2</sup>	365,50 €
External Academia <sup>3</sup>	380,60 €
External Commercial Organisations <sup>4</sup>	688,00 €
Library Quality Control NGS Readout Service Charges	
<i>TapeStation</i>	<i>Charges per 1 Library QC sample (netto)<sup>5</sup></i>
High Sensitivity DNA Analysis (D1000 ScreenTape)	26,00 €
<i>Qubit</i>	<i>Charges per 1 Library QC sample (netto)<sup>5</sup></i>
Qubit DNA Analysis (HS Kit)	15,30 €

Technical support working time Service Charges	
<i>Working Time</i>	<i>Charges per hour (netto)<sup>2,3,4</sup></i>
Technican	52,00 €

<sup>1</sup> Service charges (without working time on the GeoMx DSP system) valid for 1-4 slides. For sample size larger than 4 slides, service charges are reduced depending on the number of slides. The working time is charged extra according to the actual work involved

<sup>2</sup> Internal Users: Invoice without VAT

<sup>3</sup> External Academia Users: Invoice +19% VAT

<sup>4</sup> External Commercial Users: Invoice +19% VAT (netto price includes 40% Overhead)

<sup>5</sup> QC will be additional charged to service fees according to <sup>2,3</sup> and <sup>4</sup>

<sup>6</sup> Service charges (includes working time for SPRINT readout, but without technical support working time on the GeoMx DSPSystem) valid for 1-4 slides. For sample size larger than 4 slides, the service charges are reduced depending on the number of slides. The working time is charged extra according to the actual work involved

### (3) Service Fees - Quality Control Only analysis (01.06.2024)

nCounter Core Facility	
Sample QC Service Charges	
Quality Control Service Charges	
<i>TapeStation</i>	<i>Charges per Sample (netto)<sup>1,2,3</sup></i>
TapeStation RNA Analysis (RNA Screen)	7,60 €
TapeStation RNA Analysis (HS RNA Screen)	8,20 €
TapeStation DNA Analysis (D1000 Screen)	6,80 €
TapeStation DNA Analysis (HS D1000 Screen)	7,50 €
TapeStation DNA Analysis (D5000 Screen)	8,10 €
TapeStation DNA Analysis (HS D5000 Screen)	8,50 €
TapeStation DNA Analysis (Genomic DNA Screen)	9,70 €
<i>Qubit</i>	<i>Charges per Sample (netto)<sup>1,2,3</sup></i>
Qubit RNA Analysis (HS Kit)	5,80 €
Qubit RNA Analysis (BR Kit)	6,00 €
Qubit RNA Analysis (micro Kit)	5,90 €
Qubit DNA Analysis (HS Kit)	5,80 €
Qubit DNA Analysis (BR Kit)	6,00 €
<i>Nanodrop</i>	<i>Charges per Sample (netto)<sup>1,2,3</sup></i>
Nanodrop Analysis	4,50 €

<sup>1</sup> Internal user: Invoice without VAT

<sup>2</sup> External academia users: Invoice +19% VAT

<sup>3</sup> External commercial users: Invoice and +19% VAT (netto price includes 40% overhead)

## § 6: General Guidelines

### ➤ Starting a Project

To start a project at the nCounter Core Facility, the customer has first to register on the [iLabs nCounter Core Facility site](#) and ask for a consultation:

- **To register for an 'Account':**

To get started, the customer has to register for an account:

1. Navigate to the core page: [https://eu.ilabsolutions.com/service\\_center/show\\_external/3574](https://eu.ilabsolutions.com/service_center/show_external/3574)

4. Receive a *Welcome Email* from iLab (typically within one business day) with login credentials and basic instructions on using the system at this time.

- **To create a 'Consultation Request':**

Using the iLab login credentials, you are supposed to first of all place a consultation request.

1. Navigate to the core page: [https://eu.ilabsolutions.com/service\\_center/show\\_external/3574](https://eu.ilabsolutions.com/service_center/show_external/3574)
2. In the upper-right-hand corner click 'LOGIN'.
3. Enter your email address and password, and sign in.
4. Select the *Request Services* tab and click on the '*Request Consultation*' button next to the service of interest.

Based on that, a meeting will be organized with nCounter Core Facility staff to review the planned project and to discuss how to proceed.

- **To create a 'Service Request':**

Using the iLab login credentials, you can place a service request.

1. Navigate to the core page: [https://eu.ilabsolutions.com/service\\_center/show\\_external/3574](https://eu.ilabsolutions.com/service_center/show_external/3574)
2. In the upper-right-hand corner click 'LOGIN'.
3. Enter your email address and password, and sign in.
4. Select the *Request Services* tab and click on the '*Request Service*' button next to the service of interest.
5. You will be asked to complete a form before submitting the request to the core.
6. Your request will be pending review by the core. The core will review your request and either Agree to the work or they will ask for more information if needed.

All further steps will be handled via the iLabs platform. Once the samples are ready for submission, all mandatory information need to be uploaded to the sample submission form. We ask the customer, to download and sign the attached registration form and upload it again to the service request in iLabs.

## Sample Sources

1. nCounter SPRINT expression analyses can be performed on RNA samples (miRNA, mRNA, ncRNA) from any species. Analyses of copy number variations (CNVs) are performed using genomic DNA samples. CHIP-based DNA analysis is also possible.
2. GeoMx Digital Spatial Profiler analyses can be performed from fresh frozen or formalin fixed embedded tissue sections.
3. Quality Control Only analyses can be performed for RNA and DNA samples extracted or generated from different sources.

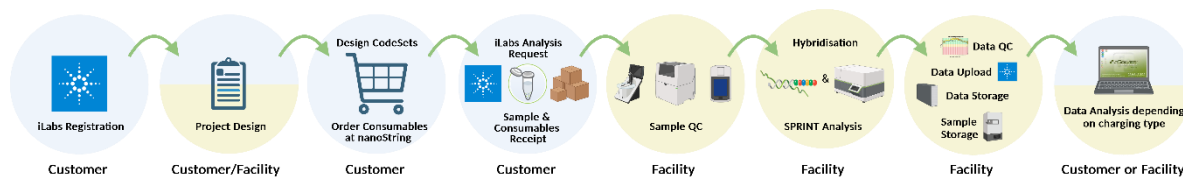
Since only RNA, DNA and fixed tissue sections are processed in the nCounter Core Facility, there are no regulations on biological safety or the genetic engineering law to be observed.

- **nCounter SPRINT Profiler expression analysis**

### (A) Workflow

The diagram below outlines the workflow how to perform nCounter SPRINT Profiler-based expression analyses. The standard service includes sample QC, hybridization, sample processing, nCounter SPRINT Profiler analysis, initial data QC, temporary sample and data storage, data delivery and data analysis (dependent on the charging system).

### nCounter SPRINT expression profiling workflow



blue: customer, yellow: nCounter Core Facility.

After the iLabs-based consultation and supported project planning, the customer has to order the project required consumables from nanoString ([www.nanoString.com](http://www.nanoString.com)). To make things faster, we ask the customer to deliver the nanoString consumables directly to the nCounter Core Facility. Subsequently, the customer has to place a service request on the iLabs platform ([iLabs nCounter Core Facility site](#)) and upload detailed sample information in the given sample submission form.

After samples and project required consumables receipt, the nCounter Core Facility will perform a quality control (QC) step of the customer's samples (B). We kindly ask the customer to send the samples to be analysed either on ice or dry ice.

#### (B) Sample Requirements & Sample QC

nCounter SPRINT Profiler expression analysis requires on average 25-150 ng of RNA per biological replicate depending on the application (gene profiling, miRNA analysis). The minimum concentration for miRNA analysis is 33 ng/ $\mu$ l. For CNV assays, 5-150 ng of DNA per biological replicate are needed (minimum DNA concentration is 85ng/ $\mu$ l). For detailed description see Tables 1, 2.

For project planning, the quality and quantity of the customer's samples are considered. Therefore, the customer is asked to share not only DNA/RNA concentrations but also absorption spectra data, that is  $OD_{230}$ ,  $OD_{260}$  and  $OD_{280}$  as well as respective ratios  $OD_{260/230}$  and  $OD_{260/280}$  as retrieved from e.g. the nanodrop or DeNovix system. If this data is not available, the nCounter Core Facility will carry out this step and charge the customer for it.

All RNA and DNA samples are checked for their concentration and integrity using the Agilent TapeStation 4150 and the Qubit system. Therefore, **an extra amount of 2.3  $\mu$ l RNA/DNA** need to be provided. Based on experience, nanodrop/DeNovix-derived concentration measurements often differ compared to the more sensitive Agilent TapeStation and Qubit system. Please note that this service will be charged to the customer.

**RNA QC:** To ensure optimal assay performance, nanoString recommends purified RNA with an  $OD_{280/260}$  of 1.9 or greater and an  $OD_{260/230}$  of 1.8 or higher.

**DNA QC:** To ensure optimal assay performance, nanoString recommends pure genomic DNA to have an  $OD_{280/260}$  of 1.7 or greater and an  $OD_{260/230}$  of 1.3 or higher. For DNA extracted from FFPE, nanoString recommends an average size greater than 1 kb (prior to fragmentation).

**Storage Solution:** The storage solution should be RNase free aqueous solution and can be water, TE, Tris, etc.

**Technical Replicates:** If the customer would like to have a sample run more than 1 time, the number of replicates need to be indicated.

If samples pass QC, the analysis is carried out. The QC report will also be uploaded in the customer's project in iLabs. If the samples do not pass the quality control, the customer is informed in order to decide whether the samples should be analysed or not.

**Table 1.** Sample Requirements I.

Sample Type	nCounter SPRINT Profiler
FFPE-derived RNA	150 ng
total RNA (codesets <400 genes)	50 ng
total RNA (codesets >400 genes)	25 ng
miRNA	100 ng
Fragmented DNA	150 ng
ChIP DNA (unamplified)	5 ng
ChIP DNA (whole genome amplification)	50 ng
Single Cell or Low Input Material	up to 5µl amplified sample

**Table 2.** Sample Requirements II.

Initial Number of Cells	Recommended Lysis Buffer	nCounter SPRINT Profiler	Sample Volume
50.000 cells or more	RLT or other buffer with a high concentration of guanidine isothiocyanate	~3.500 cells/µl	up to 1.5µl
50.000 cells or less	iScript™ RT-qPCR Sample Preparation Reagent or other detergent/chemical lysis buffer	~1.000 cells/µl	up to 5µl

#### (D) Sample Storage

As with many labs, freezer space is limited. The nCounter Core Facility will therefore not be able to store the customer's samples and CodeSets/TagSets/nCounter Panels indefinitely. As a consequence, samples and CodeSets/TagSets/nCounter Panels will be retained for a maximum of 6 months; it is the customer's responsibility to collect all remaining samples and CodeSets/TagSets/nCounter Panels as soon as the data is released or, in the worst case, if there is a preparation problem and the analyses cannot be continued. The customer will receive an e-mail that the samples, cartridges and CodeSets/TagSets/nCounter Panels will be discarded if not picked up in a given time period. In the event of a reshipment, the customer has to cover the shipping costs and has to organize an appropriate courier service. There will be no exceptions.

#### (E) Data Upload & Data Analysis

The nCounter raw data RCC files, the respective RLF file (this file contains all information about the used CodeSet) each as zip file, the QC TapeStation data (pdf file) and the Qubit and nanodrop/DeNovix data (both as excel file) will be uploaded in the respective iLabs request and located at the bottom of the request.

Prior to detailed data analysis, the nCounter Core Facility performs a first data QC independent of the chosen charging system. For detailed data analysis, nanoString provides the nSolver™ Analysis Software. This program enables quick and easy QC, normalisation, and analysis of data without the need to purchase additional software packages. Furthermore, data visualisation including box plots, heat maps, scatter plots, violin plots and histograms is possible. The provision of the complete data analysis and results depends on the selected charging system. The nCounter Core Facility offer nSolver™ Analysis Software trainings once a year. Please ask for the next opportunity to get trained.

#### (F) Data Storage

All data will be stored on inhouse server for 6 months after the respective project is finished and additionally in the customer's iLabs request as long as the request is available. It is the customer's responsibility to store and back up their data. After the 6 months the customer's data will be automatically deleted from the inhouse server.



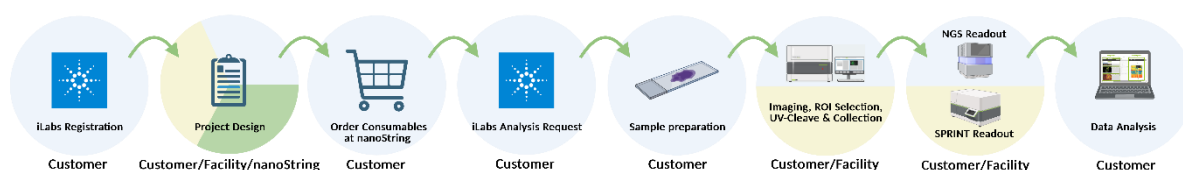
## ➤ GeoMx Digital Spatial Profiler analysis

### (A) Workflow

The diagram below outlines the workflow how to perform GeoMx Digital Spatial Profiler (DSP)-based analyses. After the iLabs-based consultation, project planning and discussion with the nCounter Core Facility and nanoString, the customer has to order the project required consumables from nanoString ([www.nanoString.com](http://www.nanoString.com)). Subsequently, a service request has to be placed on the iLabs platform ([iLabs nCounter Core Facility site](#)) and necessary information has to be added.

Sample preparation will be exclusively performed by the customer. The facility provides technical assistance during the analysis on the GeoMx DSP system and is carrying out the nCounter SPRINT Profiler-based readout if this readout was chosen by the customer. If an NGS readout is selected, it is the customer's responsibility to organize all relevant steps. This read-out is not carried out by the nCounter Core Facility.

GeoMx Digital expression profiling workflow



blue: customer, yellow: nCounter Core Facility, green: nanoString.

### (B) Sample Requirements

Sample requirements for a GeoMx DSP-based analysis can be found at [www.nanoString.com](http://www.nanoString.com).

### (C) Data Upload & Data Analysis

In case a SPRINT readout was performed, the respective project data will be uploaded into the GeoMx DSP system by the nCounter Core Facility. If an NGS readout was performed, respective data need to be uploaded by the customer.

Data analysis is carried out exclusively by the customer. The nCounter Core Facility provides the online access to the GeoMx DSP system via <https://129.206.121.203/login> (works only with Google Chrome browser) for data up- and download.

### (D) Data storage

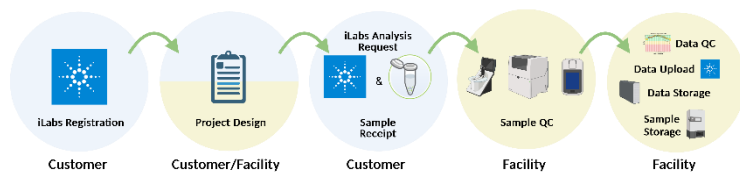
All data will be stored on the GeoMx DSP associated local computer for 3 months after the respective project is finished. It is the customer's responsibility to store and back up their data. After the 2 months the customer's data will be automatically deleted from the local storage drive.

## ➤ Quality Control only analysis

### (A) Workflow

The diagram below outlines the workflow for Quality Control only analysis. After the iLabs-based consultation, project planning and discussion with the nCounter Core Facility, which QC approach and kit fits best, the customer has to place a service request on the iLabs platform ([iLabs nCounter Core Facility site](#)) and upload detailed sample information in the given sample submission form. Samples need to be delivered in the appropriate environment (ice or dry ice) to the nCounter Core Facility.

### Quality Control only workflow



blue: customer, yellow: nCounter Core Facility.

## (B) Sample Requirements

A 5µl sample volume is required to perform sample QC using the Agilent TapeStation (Table 3) and the Qubit system (Table 4).

**Table 3.** TapeStation Assay Specifications.

TapeStation Assay	Size Range	Sensitivity	Qualitative Range
RNA Screen Tape	50 – 6000 bp	5 ng/µL	25 – 500 ng/µL
High Sensitivity RNA ScreenTape	50 – 6000 bp	100 pg/µL	500 – 10000 pg/µL
D1000 ScreenTape	35 – 1000 bp	0.1 ng/µL	0.1 – 50 ng/µL
High Sensitivity D1000 ScreenTape	35 – 1000 bp	5 pg/µL	10 – 1000 pg/µL
D5000 ScreenTape	100 – 5000 bp	0.1 ng/µL	0.1 – 50 ng/µL
High Sensitivity D5000 ScreenTape	100 – 5000 bp	5 pg/µL	10 – 1000 pg/µL
Genomic DNA ScreenTape	200 to >60000 bp	0.5 ng/µL	10 – 100 ng/µL

**Table 4.** Qubit Assay Specifications.

Qubit Assay	Initial Sample Concentration	Assay Range
Qubit™ RNA BR	0.5 ng/µL to 1200 ng/µL	10–1,200 ng
Qubit™ RNA HS	0.2 ng/µL to 200 ng/µL	4-200 ng
Qubit™ microRNA	25 pg/µL to 150 ng/µl	0,5-150 ng
Qubit™ dsDNA BR	0.2 ng/µL to 2,000 ng/µL	4–2,000 ng
Qubit™ dsDNA HS	5 pg/µL to 120 ng/µL	0.1–120 ng

## (C) Sample storage

As with many labs, freezer space is limited. The nCounter Core Facility will therefore not be able to store the customer's samples indefinitely. As a consequence, samples will be retained for a maximum of 6 months; it is the customer's responsibility to collect all remaining samples as soon as the QC data is released. The customer will receive an e-mail that the samples will be discarded if not picked up in a given time period. In the event of a reshipment, the customer has to cover the shipping costs and has to organize an appropriate courier service. There will be no exceptions.

## (D) Data upload

The QC TapeStation data as pdf file and the Qubit and nanodrop data as excel file will be uploaded in your respective iLabs request and located at the bottom of your request.

## (E) Data Storage

All data will be stored on our inhouse server for 6 months after the respective project is finished and additionally in your iLabs request as long as the request is available. It is your responsibility to save and

back up your data, we cannot do this for you. After the 6 months your data will be automatically deleted from our server.

### Citing our Service

Please cite the service of the nCounter Core Facility in the acknowledgements section of your publication in case the standard charging service was chosen (no collaboration). The following statement may be used:

For expression profiling with the nCounter SPRINT Profiler:

**'We acknowledge the technical support of the nCounter Core Facility of Heidelberg University. We thank Ralph Röth for support with the performance of the nCounter expression profiling and the data analyses. The nCounter Core Facility is partially funded by the CellNetworks Core Technology Platform (CCTP) of Heidelberg University. The CCTP is funded in part by the Federal Ministry of Education and Research (BMBF) and the Ministry of Science Baden-Württemberg within the framework of the Excellence Strategy of the Federal and State Governments of Germany.'**

For spatial expression profiling with the GeoMx Digital Profiler System:

**'We acknowledge the technical support of the nCounter Core Facility of Heidelberg University. We thank Ralph Röth for support with the performance of the spatial expression profiling. This work is supported by the Health + Life Science Alliance Heidelberg Mannheim (MULTI-SPACE platform of the Innovation Campus) and received state funds approved by the State Parliament of Baden-Württemberg. The nCounter Core Facility is partially funded by the CellNetworks Core Technology Platform (CCTP) of Heidelberg University. The CCTP is funded in part by the Federal Ministry of Education and Research (BMBF) and the Ministry of Science Baden-Württemberg within the framework of the Excellence Strategy of the Federal and State Governments of Germany.'**

The Standard guideline for publications for CCTP Core facilities can be downloaded as [PDF](#) at [the CCTP website](#).

I have taken note of the present Individual User Agreement for the nCounter Core Facility and the underlying General User Regulations for Core Facilities at Heidelberg University and declare that I agree with them.

\_\_\_\_\_, the \_\_\_\_\_  
Place Date

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Signature PI

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Signature User

Institution:

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Address of the institution:

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