

**University of Michigan DNA Sequencing Core
Services, Pricing and Information for UMich internal Clients**

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The University of Michigan DNA Sequencing Core (“UMDSC”) provides analytical services to UMich-affiliated researchers (“internal clients”) and non-UMich-affiliated researchers (“external clients”) . This document lists the services provided to internal clients of the UMDSC, including the prices of those services as of the above revision date. Revisions to this document will be made periodically with approval of the UM Office of Financial Analysis (OFA), and may include changes in prices or services. Revisions become effective upon the date of OFA approval, and at that time supersede all previous price lists. *Actual prices charged will be those approved by the OFA. In event of errors in this document, the OFA approved prices supersede those stated here.*

The UMDSC offers nucleic acid analysis services as listed in the following table. For definitions or for detailed information on the services, please consult the Core’s web site (<http://seqcore.brcf.med.umich.edu>) or with Core staff members. The actual prices that a client will pay generally requires a complicated mixture of the below charges. All prospective clients should contact the Sequencing Core (seqcore@umich.edu) for discussion and clarification of costs for *their* project.

Discounts are available for members of certain Centers. In most cases, these are provided by the Center administration in the form of rebates, after the service is rendered by the Core and after payment has been made by the Investigator. Please contact your Center administrators to discuss potential discount opportunities.

Sanger Sequencing:

Sanger Sequencing, standard	\$3.00/rxn
Sanger Sequencing, Rush	\$5.00/rxn
Sanger Sequencing, Same Day <i>(Same Day Rush is available only if enabled on the Sample Submission form.)</i>	\$8.00/rxn
Sanger Seq, full 96-well plates <i>(Will be charged for any empty wells)</i>	\$2.40/rxn
Sanger Seq, Reduced Service <i>(Full 96-well plate only. Please consult Core staff before attempting to use this service.)</i>	\$2.25/rxn
Sanger Seq, Sec Structure DNA <i>(siRNA, hairpin)</i>	\$6.00/rxn
Sanger Sequencing, Large DNA	\$12.00/rxn
Sanger Seq, large projects	contact us

Fragment Analysis:

FragAnalysis, Instrument Use	\$58.00/run
FragAnalysis, CE Loading Plate	\$36.00/plate
FragAnalysis, IdentifilerPlus	\$35.00/rxn

qPCR Instrument Usage:

qPCR Instrument Usage <i>(Run one SIBR Green or Taqman 96- or 384-well plate, client-prepared)</i>	\$20.00/run
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Sequenom MassARRAY Services:

Sequenom Pinset, reagents only <i>(Pinset is 24 reactions, each of which is 1 sample tested against 1 multiplex)</i>	\$316.00/pinset
Sequenom Quadrant reagents only <i>(Quadrant is 96 reactions, each of which is 1 sample tested against 1 multiplex)</i>	\$800.00/quadrant
Sequenom HalfChip reagents only <i>(HalfChip is 192 reactions, each of which is 1 sample tested against 1 multiplex)</i>	\$1,420.00/half chip
Sequenom FullChip reagents only <i>(FullChip is 384 reactions, each of which is 1 sample tested against 1 multiplex)</i>	\$2,580.00/full chip
EpiTyper reagents only <i>(Priced as fraction of a chip)</i>	\$750.00/chip
Sequenom technician time <i>(e.g. assay design, sample processing, reaction spotting, data analysis)</i>	\$90.00/hour

<u>PyroMark pyrosequencing services:</u>	
FullPlate reagents, std labor	\$600.00/plate
PartialPlate reagents, std labor (24 wells)	\$290.00/plate
PyroMark technician time (Extra effort beyond standard processing labor)	\$90.00/hour

<u>Illumina BeadArray services:</u>	
<i>Illumina kits at market price</i>	
BeadArray technician time	\$61.00/hour
BeadArray reagents and supplies (Per 96-well plate)	\$257.00/plate
BeadArray Scanning (Instrument usage)	\$12.00/hour

<u>Illumina Sequencing services, Library generation:</u>	
Standard Genomic libraries	\$102.00/library
96-well Genomic libraries (High throughput automated process, in development)	\$34.00/library
Ultra-low input genomic lib	\$123.00/library
PCR-free genomic libraries	\$120.00/library
10x Genomics Long-Contig lib	\$1027.00/library
Exome captures, pools	\$531.00/pool
Non-Stranded mRNA polyA lib (Discontinued by Illumina 12/31/2017)	\$130.00/library
Stranded mRNA polyA libraries	\$121.00/library
Stranded mRNA Ribo-reduced lib	\$285.00/library
SMARTer stranded low input (Client supplies Ribo-Gone kit if needed)	\$209.00/library
smRNA-seq libraries	\$194.00/library
10x Genomics Single-cell RNA (Must be scheduled in advance!)	\$1721.00/library
Library QC/Normalize/Pooling	\$22.00/library
Pool assessment for loading	\$48.00/pool
Illumina Library Tech time (Extra services for custom projects)	\$97.00/hour

<u>Illumina Sequencing Services on the HiSeq 2500 - 2 lanes per flow cell:</u>	
HS 2500v2 Single-end, 50 RAPID	\$1047.00/lane
HS 2500v2 Paired-end, 50 RAPID	\$1651.00/lane
HS 2500v2 Paired-end 100 RAPID	\$2185.00/lane
HS 2500v2 Add 50nt RAPID run (Custom projects only)	\$433.00/lane

<u>Illumina Sequencing Services on the HiSeq 2500 and HiSeq 4000 - 8 lanes per flow cell:</u>	
HS 2500 v4 Single-end, 50	\$980.00/lane
HS 2500 v4 Paired-end, 50	\$1551.00/lane
HS 2500 v4 Paired-end, 125	\$2347.00/lane
HS 2500 v4 Add 50nt to v4 run	\$402.00/lane
HS 4000 Single-end, 50	\$973.00/lane
HS 4000 Paired-end, 50	\$1558.00/lane
HS 4000 Paired-end, 75	\$1667.00/lane
HS 4000 Paired-end, 150	\$2296.00/lane
HS 4000 Add 50nt to HS4000 run (Custom projects only)	\$404.00/lane

Illumina Sequencing Services on the NextSeq 500 and MiSeq- 1 lane per flow cell:

NextSeq Mid-Output 150 cycle	\$1328.00/lane
NextSeq Mid-Output 300 cycle	\$1975.00/lane
NextSeq High-Output 75 cycle	\$1612.00/lane
NextSeq High-Output 150 cycle	\$2923.00/lane
NextSeq High-Output 300 cycle	\$4525.00/lane
MiSeq 300 cycle Micro	\$706.00/lane
MiSeq 300 cycle Nano	\$592.00/lane
MiSeq 500 cycle Nano	\$713.00/lane
MiSeq 150 cycle v3	\$1214.00/lane
MiSeq 500 cycle v2	\$1601.00/lane
Duo cBot RAPID kit	\$212.00/each
Drive, 1T	\$75.00/each
Illumina Lanes Tech time	\$88.00/hour
<i>(Extra services for custom projects)</i>	

Pacific Biosciences Sequencing services:

PacBio shearing and QC	\$89.00/sample
PacBio DNA library preparation	\$468.00/sample
<i>(Additional reagents may be required, in certain cases. Discuss with Core staff.)</i>	
BluePippin Isolation	\$111.00/sample
PacBio Technician time	\$75.00/hour
PacBio SMRT Cell sequencing	\$425.00/SMRT cell

MicroArray Services:

There are two cost components to a MicroArray project, the array and the processing time. Arrays are purchased by the Core and billed with processing, after project completion. Except where noted, prices below are for processing ONLY.

Life Technologies/Affymetrix:

Std, GeneChip cartridge	\$257.00/sample
Std, GeneAtlas 4-array strip	\$230.00/sample
Standard, GeneTitan plate	\$156.00/sample
<i>(Plates are available in 16-, 24- and 96-array formats)</i>	
Low-input, GeneChip cartridge	\$222.00/sample
Low-input, GeneAtlas strip	\$206.00/sample
Low-input, GeneTitan plate	\$166.00/sample
GeneChip, hyb scan only	\$81.00/sample
GeneAtlas, hyb scan only	\$30.41/sample
GeneTitan, hyb scan only	\$41.73/sample
GeneChip SNP typing	\$290.00/sample
GeneChip SNP typing, hyb only	\$43.00/sample
Axiom (GeneTitan) SNP typing	\$27.00/sample
OncoScan CNV and SNP typing	\$765.00/sample
<i>(Includes the cost of the arrays)</i>	

Targeted qPCR Arrays:

Qiagen RT2 Profiler prep	\$244.00/plate
<i>(Qiagen 96- or 384-well plates are billed at market prices.)</i>	
Life Tech OpenArray prep	\$128.00/array
Life Tech OpenArray miRNA prep	\$150.00/array
<i>(Life Tech arrays and accessories are billed at market prices.)</i>	

DNA Isolation Services:

Whole blood, fresh	\$40.50/sample
Buffy coat	\$28.50/sample
Whole blood, frozen	\$49.00/sample
Buffy coat, frozen	\$33.00/sample
Saliva, in Oragene tube	\$19.50/sample

Subaliquot, transfer, dilution	\$1.70/sample
Quantify, Nanodrop or Qubit	\$1.70/sample

DNA and RNA Quality Control Service:

Agilent Bioanalyzer 2100 - *Submission requests are per chip. We cannot bill for partial chips.*

Bioan DNA 1000, 7500 or 12000	\$70.00/chip
Bioan DNA High Sensitivity	\$92.00/chip
Bioan RNA 6000 Nano	\$68.00/chip
Bioan RNA 6000 Pico	\$72.00/chip
Bioan Small RNA	\$72.00/chip

Agilent TapeStation 2200

TapeStation Standard DNA 1000	\$18.50/sample
TapeStation High-Sens DNA 1000	\$20.40/sample
TapeStation Genomic DNA	\$20.40/sample
TapeStation Standard RNA 6000	\$18.60/sample
TapeStation High-Sens RNA 6000	\$19.00/sample

Please note the following for all services:

The UM DNA Sequencing Core will process samples on a first-come, first-served basis. Samples from external clients will be processed at lower priority than internal clients. For the Pacific Biosciences sequencer, HHMI Investigators have priority above that of UM researchers, up to certain limits. Clients must be registered with the UM DNA Sequencing Core via our computer system (see the “PI Administration” section of Core's web site). All samples must be entered into our computer system, and must be properly labeled with our tracking number(s) *before* they are delivered to this Core. We reserve the right to discard any samples that are not properly labeled. The Core does not return unused samples or portions of samples after completion of work; they are discarded.

Prices listed in this document are those charged to internal (University of Michigan) clients, as determined by the method of billing employed by the University of Michigan Financial Operations. If a client pays using funds from a “shortcode” within the UM Financial Operations, that client will be charged the rate for internal clients, and the prices listed in this document are applicable. If a client pays by *any* other method, then the prices listed in this document are not applicable. No exception to this policy will be made for any actual or perceived affiliation the client may have with the University of Michigan, nor for any collaborative agreement the client may have with a University of Michigan employee, faculty, student, officer or agent.

An analysis performed by the UMDSC can fail for many reasons, including failures on the Core’s part (e.g. instrument malfunction, Core technician error) and failures on the Customer's part (e.g. misquantitated sample, misdesigned experiment, impure sample). We will, to the best of our ability, assess whether a failed analysis is due to a failure on the part of the Core, and we may in such cases repeat an analysis at our cost. When, in our sole judgment, a failure is not due to error on the part of the Core, we reserve the right to refuse repeating the analysis. We will not be held liable for analytical failures arising due to errors or problems in the Client’s laboratory. We will not bear the cost of repeat runs unless we explicitly state that we are doing so of our own accord. If, on completion of any repeat, the results prove that the Core was at fault in the original failure, we may at that time choose to absorb the cost of the repeat analysis. Determination of the cause of failure is based solely on the judgment of the Core staff members, and ultimate decision making in such cases resides with the Director of the UM DNA Sequencing Core.