

Next Generation Sequencing Services: User Guide

Thank you for choosing **abm** for your Next Generation Sequencing project. We guarantee to provide the best value and customer service to make your sequencing project as quick and easy as possible, providing you with a complete, high quality data set in a full range of formats. This user guide will provide you with all the necessary information regarding sample preparation requirements and adequate QC of your samples before sending them to us for processing. Please read this guide carefully before preparing your samples for shipment.

When considering any of our NGS services, you will need to provide us with a completed **order/sample submission form**, clearly listing all the samples you are providing for sequencing and the methods you have used to isolate your samples. Please submit a hard copy along with your sample tubes and an electronic copy of this form along with your order confirmation to order@abmgood.com before shipping your samples to us.

Sample Requirements

- *Please ensure your samples are shipped as securely as possible, taped down or secured in a rack and padded inside a protective box to avoid damage and/or any cross contamination of your samples.*
- *Label your samples adequately (we advise using adhesive labels over writing directly on the tubes).*
- **For total RNA samples, please ship with plenty of dry ice to ensure your samples arrive frozen.**
- ***Please contact our Tech Support Team if your sample(s) amount is below the minimal requirement.***

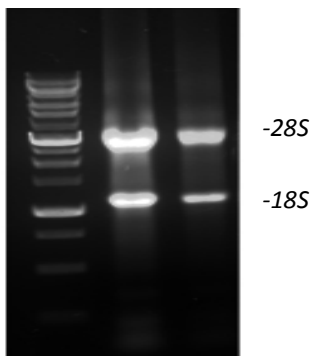
Service	Cat no.	Template type	Sample requirements	Storage Solution	Special Notes	
RNA Sequencing	IRxxxxx	Total RNA	6-10 µg (ideal), 200 ng (minimum)	RNase free H ₂ O	Ship on dry ice, template should undergo DNase I treatment prior to submission	
miRNA Sequencing*	IR12020		2 ug (ideal), 200ng (minimum)			
Ultra Low Input RNA Sequencing	IRxxxxx		1-1000 cells (10pg-10ng)			
Circular RNA Sequencing	IRxxxxx		>5-10 ug (ideal), 2 ug minimum			
FFPE RNA Sequencing	IRxxxxx		200ng (minimum)			
Whole Genome Sequencing	IWxxxxx	Genomic DNA	100-500 ng for small genomes (<300 Mbp); 1-2 ug for large genomes	10 mM Tris-HCl pH 8.0 or nuclease free H ₂ O	Ship on blue ice packs, template should undergo RNase A treatment prior to submission to remove contaminating RNA	
Exome Sequencing	IExxxxx		500 ng (ideal), 100 ng (minimum)			
Amplicon-Seq, 16S rDNA-Seq, CRISPR-Cas9-Seq	IAxxxxx		500 ng (ideal), 100 ng (minimum)			
Mate-Pair Sequencing	IWxxxxx		2-5 ug (minimum)			
Genome Methylation Sequencing	IWxxxxx		1-2 ug (minimum)			
Target Gene Sequencing	IWxxxxx		5 ug (500 ng/ul)			
Epigenetic Profiling	IM61000		15 ug (>0.5 ug/ul)			
Disease panel and pathway genes	IDxxxxx		100 ng			
shRNA Deconvolution Screening	Custom		Illumina compatible DNA Amplicons			500 ng

* For miRNA sequencing services, please isolate your RNA sample with a mirVana™ miRNA Isolation Kit, mirVana™ PARIS™ Kit or PureLink® miRNA Isolation kit to enable adequate enrichment of your sample. Other kits may or may not discard small miRNA fragments. Please note the method you used for RNA isolation in the special note column of the sample submission form.

For Total RNA samples: (RNA Sequencing)

Your total RNA Samples for RNA Sequencing must conform to the following requirements:

- The total amount of RNA required depends on the specific application, please refer to the Sample Requirements table on the previous page for general guidance.
- RNA samples must be kept stored at -80°C in nuclease free tubes, preferably sealed with parafilm.
- **Please ship with plenty of dry ice to ensure your samples arrive frozen.**
- For US customers, we advise shipment on Monday, International customers on Friday and Canadian customers on Monday to Wednesday. This is for delivery within the work week and to prevent the shipment from being held in customs over the weekend. Once the shipment has been arranged, please inform our order desk of the tracking number by email, at order@abmgood.com.
- RNA samples are required to have an OD260/280 ratio between 1.8 and 2.0 and 260/230 \geq 1.7
- Your sample(s) must undergo DNase treatment to remove any residual contaminating DNA, which can impact sequencing results
- Please supply a gel shot of a 1% denaturing RNA gel to verify your RNA sample integrity. Total RNA samples should clearly show a 28S rRNA strand and 18S rRNA strand at half the intensity. An example of a 'good' sample has been given below:



All samples will undergo QC checks prior to sequencing. If any of your samples do not pass this step, you will be notified immediately and asked to provide replacements for sequencing.

Submitting Cells

You can submit raw materials to us instead of total RNA. Fresh tissues and cell pellets should be flash frozen immediately after harvest or preserved in RNeasy later according to the manufacturer's instruction. The samples can be kept in RNeasy later at room temperature for up to one week during shipping. If you have any other questions, please contact the supplier of your particular tissues or cells for specific instructions.

For Genomic DNA samples: (Whole Genome-Seq, Exome-Seq, Amplicon-Seq, etc.)

Your genomic DNA samples must conform to the below requirements:

- The total amount of DNA required depends on the specific application, please refer to the Sample Requirements table on the previous page for general guidance.
- DNA samples are required to have an OD A260/A280 ratio ≥ 1.8 and A260/230 ≥ 1.9
- Your template must be non-degraded and unamplified
- Your sample(s) must undergo RNase treatment to remove any residual contaminating RNA
- Avoid repeated freeze thawing and store in nuclease-free centrifuge tubes in Tris-HCl buffer (pH 8.0) at 4°C (for long term storage please store at -20°C).
- Ship samples on blue ice packs to keep samples cold during transport

Shipment Information:

Total RNA samples must be kept on dry ice and shipped for next day delivery, genomic DNA samples must be shipped on blue ice packs.

- 1) Please send us your order/quotation request form along with an applicable institutionally issued PO.
We will then send you an order confirmation.
- 2) Ensure a hard copy of all necessary documents are provided with the shipment:
Please include the order confirmation, any required QC data, and a signed order/sample submission form in the shipment, together with your samples.

Disclaimer: Please consult your institution's official safety officer to confirm that all necessary regulations are met for shipping nucleic acid samples. The information provided in this user guide is a recommendation only and is subject to change. Applied Biological Materials Inc. does not take any responsibility for samples that fail to reach us or get delayed in customs. We will do our best to update these guidelines as and when necessary.

Domestic shipping (within Canada and the United States)

- 1) Ensure that all samples are prepared and packaged adequately according to the guidelines provided above.
- 2) Use an express, next-day delivery service from one of our approved couriers - FedEx, UPS or DHL. Once this has been arranged, please email us the name of the carrier with your tracking number to with 'Sample tracking order#XXXX' (YOUR ORDER NUMBER) as the subject heading to order@abmgood.com. This will enable us to monitor the shipment and ensure it arrives safely without any delay.

International Shipping

For international shipments – please confirm your chosen courier can facilitate the importation of nucleic acids through customs, and provide all necessary documentation to avoid delays in shipment.

Please use the fastest priority service available and arrange for arrival at our facility during our business operating days – (Monday to Friday, 9-5pm Pacific Standard Time).

You will need to contact your chosen international courier service (FedEx, DHL, UPS or World Courier are recommended) and complete a commercial invoice / customs invoice / pro-informa invoice as necessary, to be included with the shipment.

Additional information you may need to complete these documents has been provided below:

- RNA or DNA Samples For Research Use Only
- Include the number of samples and estimated volume
- Non-dangerous and non-infectious material
- No commercial value – Value for customs only (declare the value of the goods here - i.e. in \$ CAD/USD or € EUR as required).
- Container type

Please send your samples package with **all required documents** to:

Attention: NGS - Order #12345 (example)

Applied Biological Materials Inc.
#1-3671 Viking Way
Richmond, B.C.
V6V 2J5 CANADA

Toll Free: 1-866-757-2414

Local: 604-247-2416

Document checklist:

- A signed sample submission form
- Customs/commercial invoice as necessary (please contact your carrier service for details)