

## Sample Submission Guidelines

Thank you for choosing CD Genomics for your microbial research project. Our portfolio of microbial services includes Microbial Diversity Analysis, Metagenomics, Microbial Whole Genome Sequencing, Microbial Identification, Microbial Characterization, Functional Gene Analysis, Microbial Epigenomics, Antibiotic Resistance Gene Analysis, PacBio SMRT Sequencing, Nanopore Sequencing and Microbial Transcriptomics.

When submitting samples for any of our microbial services, please adhere to the specified sample requirements and instructions for packaging, labeling, and shipping. This will ensure the success and quality of your project. Complete the Sample Submission Form, clearly listing all samples intended for sequencing. Ensure that the sample names on the form match those on the sample tubes. Additionally, please submit an electronic copy of the form and any required QC data via email. Label the top of each tube lid with a maximum of four alphanumeric characters (e.g., 4A01).

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## Shipping Guidelines

1. When submitting samples, please include the standard sample submission form provided by our company, either as an electronic version sent via email or as a paper version included with the samples. Ensure that the sample names and quantities on the information sheet exactly match those on the sample tubes.
2. We recommend using 1.5 mL centrifuge tubes for samples whenever possible. Seal each tube with parafilm for transport. To prevent crushing or breakage of the tubes during shipping, which could lead to sample loss, place the sample tubes inside 50 mL centrifuge tubes or other rigid containers, and consider adding cushioning materials such as cotton or foam.
3. For large-scale projects, samples can be submitted in well-sealed 96-well semi- or fully-skirted PCR plates, or in strip tubes with individually attached caps. To avoid sample loss or cross-contamination, we advise sealing all wells of the plate tightly with an adhesive sheet or foil. Protect the plates or strip tubes in a sturdy box with adequate cushioning. Ship these samples on frozen blue ice or dry ice to maintain their frozen state throughout transit.
4. Avoid writing sample names and other details directly on the tube wall or cover with an oil-based pen. Instead, use a black permanent marker to label the top and side of each tube.
5. DNA samples stored in 70% ethanol can be transported at room temperature. If the DNA is dissolved in water or TE buffer, it should be shipped with ice packs.
6. RNA, cells, bacteria, and frozen tissue samples should be stored in liquid nitrogen for rapid freezing before being transported with dry ice. Note: The amount of dry ice and ice packs required will vary based on the season, duration of transport, and insulation of the shipping box.
7. For blood samples, we suggest using 5-10 mL plastic anticoagulant blood collection tubes. To prevent damage during transport, wrap each blood collection tube in bubble wrap and place them in a rigid box.
8. Prior to shipping, the sender should notify us via email, including the Sample Submission Form and tracking number, for timely registration and processing upon arrival. As we are not available to receive packages on weekends, please ensure that samples arrive on weekdays.
9. CD Genomics recommends using FedEx, DHL, or UPS for sample shipments.

## DNA Sequencing Service Sample Requirements

- **Submission Medium:** DNA should be submitted in DNase-free water, Elution Buffer, or 10 mM Tris pH 8.0.
- **Quality Standards:** Target an OD260/280 ratio of 1.8–2.0. All DNA must be RNase-treated and free from degradation or contamination.
- **Shipping:** Ship with ice packs.
- **Amount and Measurement:** The required DNA amount varies by application; consult the Sample Requirements table. Use fluorometric methods for concentration measurement, or double the values if using spectrophotometry.

<b>Illumina Service</b>	<b>Sample Type</b>	<b>Recommended Quantity</b>	<b>Minimum Quantity</b>	<b>Minimum Concentration</b>
16S/18S/ITS Sequencing	Genomic DNA	≥ 100 ng	10 ng	1 ng/μL
Whole Genome Sequencing	Genomic DNA	≥ 500 ng	200 ng	10 ng/μL
Whole Genome Sequencing (PCR-free)	Genomic DNA	≥ 1 μg	500 ng	20 ng/μL
Viral Genome Sequencing	Genomic DNA	≥ 1 μg	500 ng	20 ng/μL
2b-RAD	Genomic DNA	≥ 200 ng	50 ng	5 ng/μL
Metagenome Sequencing	Metagenome DNA	≥ 500 ng	20 ng	5 ng/μL
Amplicon Sequencing	Purified Amplicon	≥ 1 μg	500 ng	20 ng/μL
Complete Plasmid DNA Sequencing	Plasmid DNA	≥ 1 μg	500 ng	20 ng/μL

### Long Read Sequencing

Service	Sample Type	Recommended Quantity	Minimum Quantity	Minimum Concentration
Whole Genome Sequencing (PacBio)	Genomic DNA	≥ 3 µg		80 ng/µL
Whole Genome Sequencing (Nanopore)	Genomic DNA	≥ 5 µg		20 ng/µL
Full-Length 16S/18S/ITS Sequencing	Amplicon	≥ 500ng		10 ng/µL
	Tissue	1-3g	1 g	
	Thallus	5 g	3 g	
	Interstitial Fluid	3-5 mL	1 mL	
	Environmental Samples	3-5g	1 g	
	Water filter membrane	3	1	
Long-Read Metagenomic Sequencing	Genomic DNA	≥2 µg		
	Tissue	2 g		
	Interstitial Fluid	6-10 mL, sediment 2g		
	Environmental Samples	6 g		
	Water filter membrane	6		
Plasmid Sequencing (Nanopore)	Genomic DNA	≥ 1 µg	500 ng	10 ng/µL

### Epigenomics sequencing

Service	Sample Type	Recommended Quantity	Minimum Quantity	Minimum Concentration
MeDIP-Seq/hMeDIP-seq	Genomic DNA	≥ 2 µg	1 µg	20 ng/µL
DNA 6mA-IP-Seq	Genomic DNA	≥ 5 µg		20 ng/µL

## RNA Sequencing Service

- Submission Medium: RNA can be submitted in RNase-free water, RNA Stabilization Reagent, or 10 mM Tris pH 8.0.
- Quality Standards: Samples must be DNA-free with the following ratios:  
 OD A260/A280:  $\geq 1.8$   
 OD A260/A230:  $\geq 1.8$   
 RIN (RNA Integrity Number):  $\geq 6$
- Shipping: Use dry ice for shipping.
- Amount Required: The total RNA amount varies by application; refer to the Sample Requirements table for guidance.
- Concentration Measurement: Use fluorometric methods for concentrations; if using spectrophotometry, double the values.

Service	Sample Type	Recommended Quantity	Minimum Quantity	Minimum Concentration
Bacterial RNA Sequencing	Total RNA	$\geq 1 \mu\text{g}$		
	Cells	$\geq 1 \times 10^7$		
Iso-Seq	Total RNA	$\geq 2 \mu\text{g}$	600 ng	30 ng/ $\mu\text{L}$
Nanopore Full-Length Transcripts Sequencing	Total RNA	$\geq 2 \mu\text{g}$		
Nanopore Direct RNA Sequencing	Total RNA	$\geq 15 \mu\text{g}$		
Metatranscriptome	Total RNA	$\geq 4 \mu\text{g}$	3 $\mu\text{g}$	50 ng/ $\mu\text{L}$
	Cells	$\geq 5 \times 10^6$		
	Environmental Samples	$\geq 1.5\text{g}$		

## Single Cell Sequencing

Service	Sample Type	Recommended Quantity & Quality
Single Cell Genome Sequencing	Cells	1-10 <sup>3</sup> , Single cells are stored in 1xPBS buffer (without Ca <sup>2+</sup> , Mg <sup>2+</sup> ), the volume is within 2 $\mu$ L
	DNA	$\geq$ 0.5pg

### Suggestions of sampling

We all know that quality nucleic acid input equals quality sequencing data output, and so CD Genomics offers a complete line of sample extraction services for any sample type. We can consult to provide effective solutions for any sample type.

Sample Type	Quantity Recommended	Shipping Method
Cell	1x10 <sup>6</sup> cells	Dry ice
Fresh Frozen Tissue	10 mg	Dry ice
FFPE	4 FFPE slides, thickness 5-20 $\mu$ m, area >150 mm <sup>2</sup>	Room temperature/Blue ice
Viral Particles	5 x10 <sup>9</sup>	Dry ice
Stool	100 mg	Dry ice
Swabs	2 tubes/sample, 1 swab/tube	Room temperature
Saliva	1 mL	Dry ice/Blue ice
Soil	100 mg	Room temperature/Blue ice
Water	50 mL	Room temperature/Blue ice

Plasma/Serum	10 mL	Dry ice
	2 mL Fresh blood in EDTA tube	Blue ice
Whole Blood	4 mL Frozen blood in EDTA tube	Dry ice
	2.5 mL Frozen blood in PAXgene tube	Dry ice
	3 mL Frozen blood in Tempus Blood RNA Tube	Dry ice
Bodily Fluids	500 $\mu$ L (gDNA)	Blue ice
	500-10,000 $\mu$ L (cell free DNA)	Dry ice

### Contact Us

Please be aware that our services are continually evolving, and there may be occasions when sample requirements have not yet been fully updated. If you need additional information regarding sample submission guidelines not included in this document, please do not hesitate to reach out to us. Our team is here to assist you.