

# STANDARD PROJECT GUIDELINES

April 2023



## Our Customer Guarantee

Thank you for considering Phase Genomics as your partner for your Hi-C project. Our mission is to ensure clients satisfaction by delivering the highest quality assemblies as quickly and affordable as possible.

## Path to Success

By following the guidelines for sample inputs, draft assemblies, and Hi-C library data outlined in this document, clients will qualify for our **Customer Satisfaction Guarantee**, as outlined in our [Terms of Service](#). Projects must meet the acceptable criteria to qualify for our **Guarantee**. Such projects are termed *Standard Projects*.

For *Non-Standard Projects\**, e.g. those involving a sample type not listed here, or those that do not meet assembly or sequencing requirements, partial payment will be requested upfront. Such projects do not qualify for our **Customer Satisfaction Guarantee**. If your project does not meet the below criteria, we are still happy to work with you. Please contact us at [info@phasegenomics.com](mailto:info@phasegenomics.com) so we can collaboratively plan for the best outcome.

*\*Note: all cannabis projects are Non-Standard. Please inquire for more details.*

## ProxiMeta Hi-C Metagenome Deconvolution (Kit & Service)

### Sample Inputs

Sample Complexity	Example	Minimum Input
High	>200 species/strains expected (e.g. soil sample)	> 20 g
Medium	20 – 200 species/strains expected (e.g. fecal sample)	> 200 $\mu$ L
Low	<20 species/strains expected (e.g. culture)	> 200 $\mu$ L
Cells	<20 species/strains expected	>1 M cells

## Sample Preservation

Preservation Method	Acceptable Preservation Conditions	
	Time in storage	Condition
<b>Fresh</b>	<48 hours since harvest	- Sample is not noticeably degraded and has not been knowingly exposed to harsh conditions since harvest/collection
<b>Flash Frozen</b>	<48 hours since harvest	- Sample is not noticeably degraded and has not been knowingly exposed to harsh conditions since harvest/collection. - Sample has been freeze-thawed <2 times
	stored at -80°C for <1 year	
<b>PGShield™ (Phase Genomics)*</b>	< 1 month at room temperature	- Sample is not noticeably degraded and has not been knowingly exposed to harsh conditions since harvest/collection. - Samples were stored in storage solution within 24 hours
	< 3 months at 4°C	
<b>RNAlater™ (ThermoFisher Scientific)**</b>	< 1 month at 4°C	
	< 1 week room temperature	
	indefinitely at -20°C	
<b>Ethanol</b>	< 6 months at -80°C	
	< 1 month at room temperature	
<b>DNA/RNA Shield™ (Zymo Research)**</b>	< 2 years room temperature	
	< 2 years 4°C	
	indefinitely at -20°C	
<b>Crosslinked/Fixed</b>	< 1 month at -20°C	<2% formaldehyde for 10 – 20 min and quenched with Tris or glycine

\*Product is currently in beta testing so storage suggestions may change

\*\*Suggested storage times are based on manufacturer's recommendations for preserving nucleic acids and not specifically chromatin, so results may vary

## Assembly Requirements

Assembly Input	Acceptable Assembly Parameters		
	Input Option	Input Option	Hi-C Read Pairs
<b>Provide your own Assembly</b>	>5 kb, by MegaHIT 1.1.2 or higher	>5 kb, SPAdes 3.12.0 or higher, metaSPAdes	>50 M
<b>Phase Genomics to Assemble</b>	>100 M reads from shotgun library		>50 M

## Proximo Hi-C Kits and Genome Assembly

### Sample Types

Organism	Acceptable Inputs		
<b>Animal</b>	Tissue (>250 mg)	Blood (>0.5 mL)	Cells (>1 M)
<b>Plant</b>	Leaf tissue (>250 mg)	Seedling tissue (>250 mg)	Flower tissue (>250 mg)

### Sample Preservation

Preservation Method	Acceptable Preservation Conditions				
<b>Fresh</b>	Still living 48 h prior to receipt				
<b>Frozen</b>	Flash frozen	Stored at -80°C for <1 year		Sample has been freeze-thawed <2 times	
<b>Preserved</b>	<1 month at room temperature	PGShield™ (Phase Genomics)	RNA/later™ (ThermoFisher Scientific)	Ethanol	DNA/RNA Shield™ (Zymo Research)
<b>Fixed Tissue</b>	<2% formaldehyde for 10 – 20 min				

## Assembly Requirements

Genome Size	Acceptable Assembly Parameters		
	Contig N50	No. of Contigs	Hi-C Read Pairs
<b>Small</b> (<400 Mb)	>1.5 Mb	<400	>150 M
<b>Medium</b> (401 – 1,500 Mb)	>5 Mb	<1,500	>200 M
<b>Large</b> (1,501 – 3,500 Mb)	>5 Mb	<3,500	>250 M

## Proximo SV: Structural Variant Detection

### Sample Inputs

Sample Type	Acceptable Inputs
<b>Tissue</b>	>250 mg
<b>Blood</b>	>0.5 mL
<b>Cells</b>	>1 M cells

## Sample Preservation

Preservation Method	Acceptable Preservation Conditions				
Fresh	Still living 48 h prior to receipt				
Frozen	Flash frozen	Stored at -80°C for <1 year	Sample has been freeze-thawed <2 times		
Preserved	<1 month at room temperature	PGShield™ (Phase Genomics)	RNA/later™ (ThermoFisher Scientific)	Ethanol	DNA/RNA Shield™ (Zymo Research)
Fixed Tissue	<2% formaldehyde for 10 – 20 min				

## Assembly Requirements

Output	Acceptable Assembly Parameters	
	Acceptable Assembly	Hi-C Read Pairs
TAD Calling	Must be a chromosome-scale assembly	>500 M
SV Calling		>100 M