

## “bit-MAP®”

### Single-cell Genomic Analysis of Microbes

#### Single-cell level Analysis Service of Microbiome Sample

- ✓ Sequence uncultured bacterial genomes at once
- ✓ Obtain contamination-free genome sequences from rare bacteria
- ✓ Comparative genome analysis at the sub-strain resolution

#### bitBiome Inc.

bitBiome, a Japanese biotech Startup, provides a unique Single-cell, whole-genome analytical platform, bit-MAP®, specifically targeting microbes that can be applied to uncultured “raw” samples.



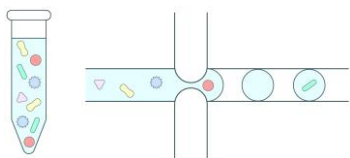
#### bit-MAP®

Whole genome sequencing provides valuable insights about types and functions of bacteria. Yet, accessible genomic information was limited to certain types of bacteria due to the difficulty in culturing most of bacteria.

We developed a new analytical platform “bit-MAP®” to sequence bacterial genomes from a single cell. bit-MAP® enables us to uncover new bacterial genomes nobody has ever discovered.

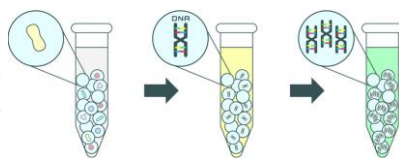
#### bit-MAP® Single-cell Sequencing Service Workflow

##### Encapsulation



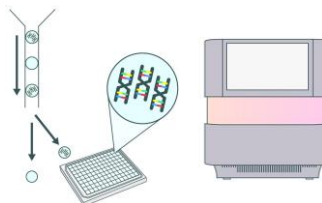
Single-cell isolation of microbial community

##### Cell Lysis & DNA Amplification



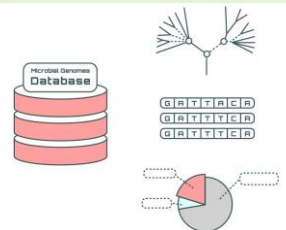
Parallel lysis and DNA amplification within gel capsules

##### Sorting & Sequencing



Gel capsules with genome are collected in well plates and sequenced.

##### Bioinformatic Analysis



Analyze genetic and functional information of individual bacteria

# Basic Services

Order No.	Service Menu	Lead Time	Deliverables	Minimum Order Quantity	Unit Price (per sample)
S-51	<b>Single-cell Genomic Analysis (384 well)</b>	Standard	Analysis Report & Sequence Data (Details are at [O-51] on 3 <sup>rd</sup> page)	ASK	USD 9,800.-
S-52		Express			3-4 weeks

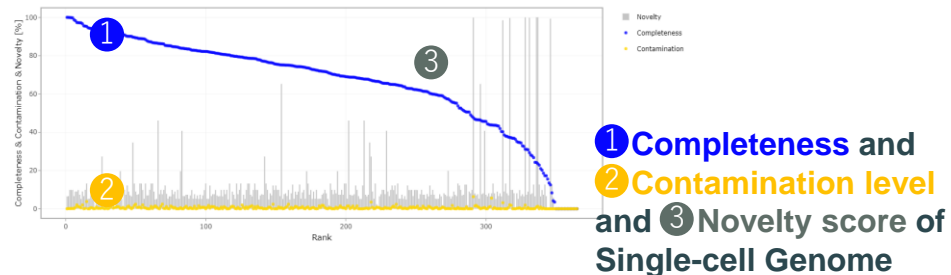
- Reduced sample size option for Single-cell Genomic Analysis is available to fit multiple samples in a 384-well plate (price may vary. Please see the price example).
- Lead Time above is estimated from the date of sample receipt.
- Transportation costs, such as freight and custom declaration costs, are not included in the price.

## Sample Requirement

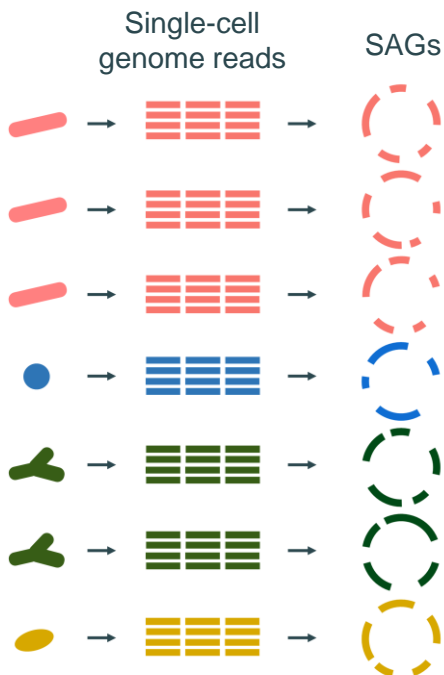
Sample	Amount
Human Feces	≥ 300 mg
Human Saliva	≥ 1 mL
Suspension of Cells/Extracellular Particles	≥ 100 µL (Conc.: ≥ 14,000 cells/µL)

- For other types of samples or low-volume samples, please contact us.

## Analysis Report Example



## Basic: SAG Assembly



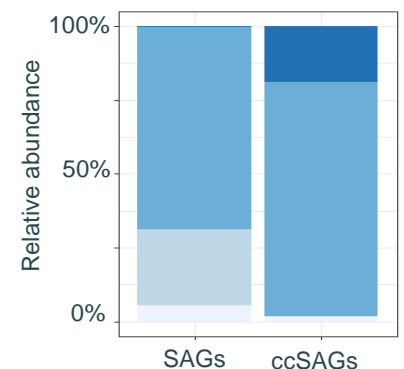
## Option Service: ccSAG Assembly

### ccSAGs



### Quality of draft genomes

High	Completion > 90%
High	Contamination < 5%
Middle	Completion ≥ 50%
Middle	Contamination < 10%
Low	Completion < 50%
Low	Contamination < 10%
Contaminated	



SAGs are produced by *de novo* assembling of single-cell genomic reads, included in the Basic Analysis (O-51). For advanced single-cell genomics, bitBiome provides the original bioinformatics pipeline, ccSAG Assembly option (O-53). With the option, you can obtain non-redundant and high-quality draft genomes of microbial strains and perform strain-resolved genome analysis.

## Optional Service

Order No.	Optional Service	Abstract	No. of Unit	Unit Price
O-51	<b>Basic Analysis with S-51/S-52</b>	<ul style="list-style-type: none"> <li>• <i>De novo</i> assembly</li> <li>• Evaluation of SAG (Single Amplified Genomes) Quality</li> <li>• Taxonomy identification</li> <li>• Gene prediction</li> </ul>	Included in Basic Menu "S-51/52"	
O-52	<b>Option Additional Fee</b>	• To be charged when one or more Option services (O-53, O-54, O-55, etc) is ordered.	1 order	USD 2,000.-
O-53	<b>ccSAG Analysis</b>	<ul style="list-style-type: none"> <li>• Chimera removal and SAG composition</li> <li>• Evaluation of ccSAG quality</li> <li>• Taxonomy identification</li> <li>• Gene prediction</li> </ul>	1 sample	USD 2,000.-

- Additional analytical services are also available upon request (e.g., phylogenetic analysis, biosynthetic gene clusters identification, antibiotic-resistant gene identification, and SAG-guided MAG analysis). Please contact us.

## Price Example

### Case1: High-Quality Single-cell Genomic Analysis 2 sample with 2 plates

	Service	Amount	Price (USD)
Basic	Single-cell Genomic Analysis (Standard) [S-51]	2 sample	19,600
	Basic SAG Report [O-51]	-	Free of Charge
Option	Option Additional Fee [O-52]	1 order	2,000
	ccSAG Analysis [O-53]	2 sample	4,000

**Total USD 25,600.-**

### Case2: Single-cell Genomic Analysis 4 sample with 2 plates (192 well x 4)

	Service	Amount	Price (USD)
Basic	Single-cell Genomic Analysis (Standard) [S-51]	4 sample /2 plate	29,400
	Basic SAG Report [O-51]	-	Free of Charge
		= S-51 x 1.5 (Extra Charge of sample allocation)	

**Total USD 29,400.-**

## Other Service

Order No.	Other Service	Lead Time	Deliverables	Minimum Order Quantity	Unit Price (per sample)
M-53	<b>Shotgun Metagenomic Analysis (Data: 5Gb)</b>	Standard	Sequence Data	ASK	USD 1,580.-
M-54		Express			3-4 weeks

- Additional analytical services are available upon request (e.g., Metagenomic Reads/Contig Analysis and MAG analysis). Please contact us.
- Lead Time above is estimated from the date of sample receipt.

## Service Flow



Confirmation of REQ, QTN & Order, Shipment of Sample



Sequencing, and Data Analysis



Reporting