

# Unlocking the power of the human microbiome

Microbes are all around us. They live in our gut, in our mouths and on our skin.

Across the world, scientists are using detailed molecular technologies to reveal insights into microbiomes that we never imagined possible. These insights have dramatically changed our understanding of the important role of the microbiome in human health, including how the microbiome keeps us healthy or how changes in the composition of a microbiome are associated with disease.

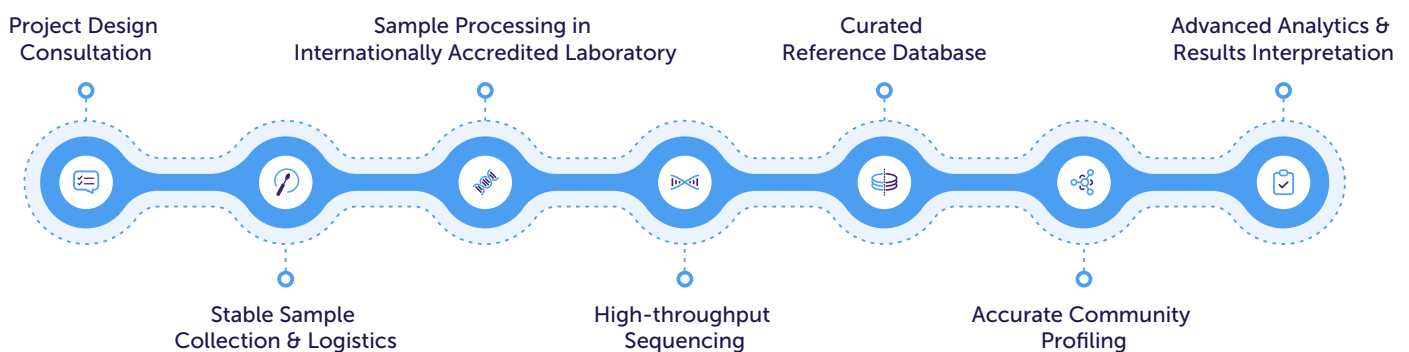
However, there is still much to learn. Well-considered experimental designs, reliable sequencing data, quality data analysis, and insightful interpretations are essential for advancing microbiome research.

Illumina and Microba Life Sciences have partnered to empower researchers with the technology and solutions to accelerate novel multidisciplinary microbiome projects. Microba's cutting-edge gut microbiome analysis solution, powered by Illumina's Next-Generation Sequencing technology enables researchers to be confident they are getting an accurate profile of the gut microbiome to improve gut microbiome translational studies and clinical outcomes.

## An end-to-end solution for gut microbiome research

Our sample to solution offering for microbiome analysis is optimised at every step to ensure consistent and reliable results for your research. Built on a foundation of scientific and technical excellence, Microba's Analysis Platform enables precise and comprehensive measurement of the microbiome.

Access world-leading technology and expertise in microbiome research at any step of your project, or engage our team for end-to-end support.



# Solutions customised to meet your needs

Each research project begins with a detailed consultation with Microba's team of scientists and data analysts to optimise study design and data analysis techniques to address your key research questions. Upfront consideration of study design ensures high quality results and eliminates potential cost and time wastage.

## Sample collection & logistics

Sample collection is one of the highest sources of variability in microbiome research. Microba's collection method ensures your project will start with reliable sample inputs to produce biologically relevant data.

- Dry-swab sampling method actively preserves without liquids or cold storage
- Easy to use with high compliance and low sampling error
- Published & peer-reviewed in ISME Communications<sup>1</sup>

## Sample processing

Microba's laboratory workflow has been developed and optimised by a highly skilled laboratory team with significant experience in microbiome analysis.

- Highly automated, single-process laboratory
- Accredited to international medical standard ISO 15189 by National Authority of Testing Australia (NATA)
- Optimised to ensure both consistency and reliability of data outputs

## Metagenomic sequencing

Shotgun metagenomics is critical to produce high-resolution taxonomic and functional data outputs. Microba delivers reliable data by leveraging Illumina's next-generation sequencing technology.

- Flexible, high-throughput sequencing using the NovaSeq™6000
- Illumina library preparation and metagenomic sequencing reagents yield high-quality data
- Cost-effective options to scale with the scope of your research study



## Accurate profiling with Microba's bioinformatics

World-leading bioinformatic tools for taxonomic and functional profiling enable unparalleled coverage of the microbiome for accurate signals.

- Highly accurate profiling down to 0.007% relative abundance<sup>2</sup>
- Link functional data to either the species profiles or sample
- Obtain up to 95% read assignment rate for human faecal microbiome samples<sup>2</sup>
- Identification of signals using most scientifically-advanced microbial taxonomy (GTDB)

## Advanced analytics & results interpretation

Microbiome data often requires multifaceted analysis approaches. Microba's experts and extensive knowledge support you to find and interpret your results.

- Exploratory and statistical analyses to identify species, genes and pathway signals
- Advanced artificial intelligence approaches to explore complex datasets
- Results interpretation support from experienced scientific team
- Deep understanding of the composition and function of the gut microbiome, in the context of the host

1. Pribyl et al. 2021, ISME Communications. DOI: 10.1038/s43705-021-00014-2

2. Parks et al 2021. Frontiers in Microbiology. DOI: 10.3389/fmicb.2021.643682