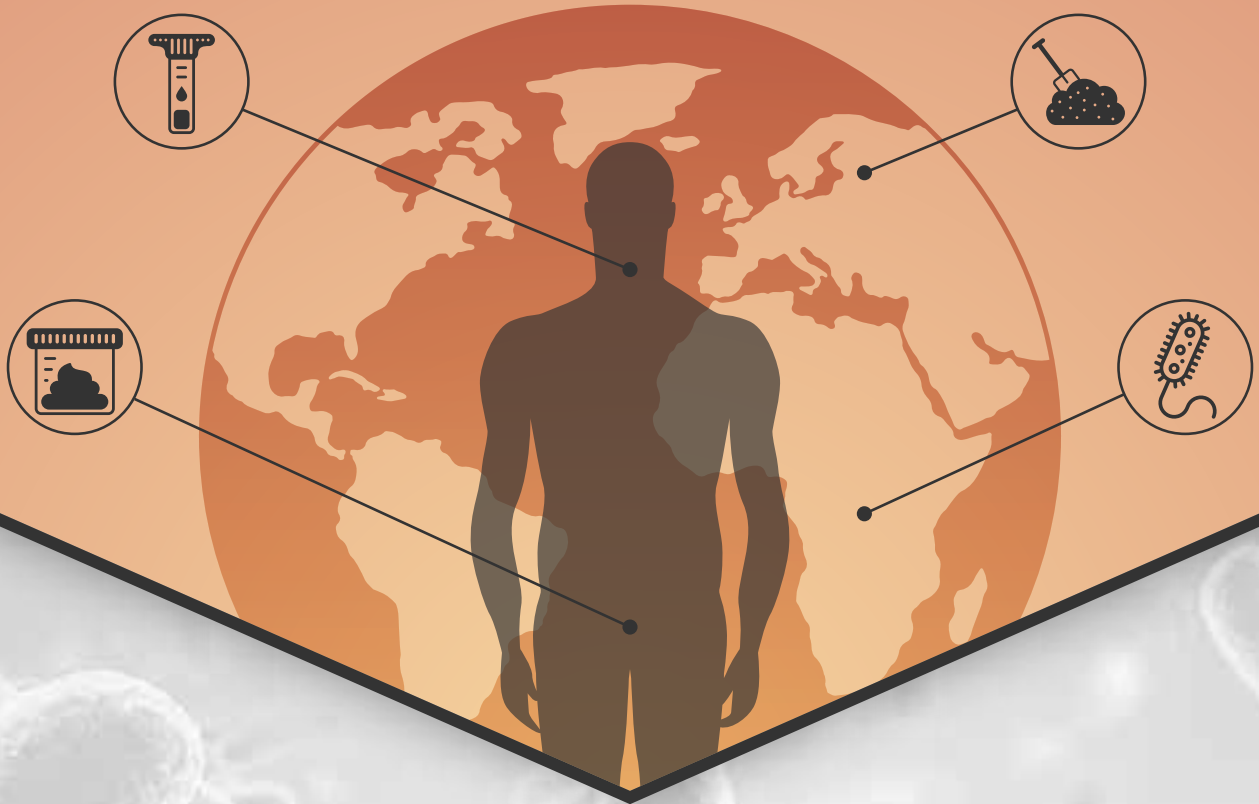


Microbiome Collection, Preservation & Isolation



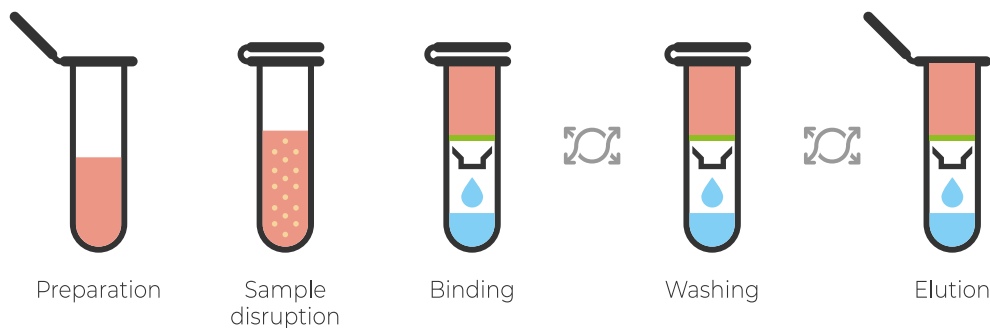
► Microbiome Collection, Preservation & Isolation

We present a series of solutions at the level of collection / stabilization and DNA purification kits for reproducible microbiome analysis. Preserve microbiota profiles for unbiased and reproducible results.

► Accommodates a wide variety of samples



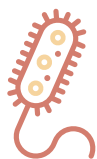
► Technology Overview



Beginning with a bead-beating protocol, cells are lysed through a combination of mechanical force, heat and detergent, vortexed using horizontal adapter for the Vortex Genie 2 Vortex or using others common disruption devices.

Appropriate DNA binding conditions to the Microbial DNA Columns are achieved by addition of large amounts of chaotropic salts (Binding Buffer) to the lysate. Contaminants are removed by two efficient washing steps. Afterwards, The resulting DNA is recovered in a DNA-free Tris buffer to use for subsequent reactions.

▶ Microbial Samples



Bacteria



Yeast



Fungus

DANAGENE Microbial DNA Kit is designed for rapid purification of highly pure genomic DNA from microorganisms (gram-negative and gram-positive bacteria, yeast, and fungi).

Specifications

- Designed for rapid purification of highly pure genomic DNA from microorganisms (gram-negative and gram-positive bacteria, yeast and fungi).
- Silica-membrane technology with MiniSpin columns.
- Bead Microtubes for efficient lysis included in combination with liquid Proteinase K.
- Suitable for a large variety of starting materials: Microbial cultures and agar plates.
- Sample material: 1.5 ml culture up to 50 mg wet weight cell pellet.
- Typical yield: Approx. 5-25 µg depends on sample type.
- Preparation Time: 35 min.
- Elution volume: 100 µl.

Applications

- Total DNA from microbial cultures.
- Typical downstream applications: PCR, real-time PCR, southern blotting, enzymatic reactions.

Reference	Product Description	Preps
0619	DANAGENE MICROBIAL DNA Kit	50

► Soil Samples



Soil

The **DANAGENE MICROBIOME Soil DNA Kit** has been designed for a fast and efficient purification of **microbial DNA from environmental samples like soil samples**.

Specifications

- Designed for a fast and easy purification microbial DNA from different types of soil samples.
- Silica-membrane technology with MiniSpin columns.
- Efficient lysis of all microorganisms (including durable species with thicker and more complex cell walls) by a combination of heat, chemical, and mechanical disruption with specialized beads.
- Eliminates inhibitory substances as humic substances and others inhibitors.
- Typical yield: Approx. 5-20 µg depends on sample type.
- Preparation Time: 35 min.
- Elution volume: 50-100 µl.
- No phenol/chloroform extraction or ethanol precipitation is necessary.

Applications

- Microbiome analysis.
- RFLP analysis.
- Mutation analysis.
- PCR applications.
- Patogehn typing.

Reference	Product Description	Preps
0621	DANAGENE MICROBIOME SOIL DNA kit	50

► Stool Samples



Stool

DANAGEN-BIOTED has developed a complete system for processing samples of human or animal feces.

• DANASTOOL Sample Collection MICROBIOME Kit

is an integrated system for collection, transportation and storage of stool samples and subsequent DNA purification. Transportation of the stabilized DNA can be carried out in the DNA Stabilization solution without refrigeration at ambient temperature.

The DANASTOOL Sample Collection MICROBIOME Kit enables collection, storage and stabilization of stool samples. It comes in a tube with spoon and liquid stabilization solution that preserves the MICROBIOME profiling.



Specifications

- Easy to use, designated for collection and safe transportation because the samples become Not infectious.
- It is not necessary to process the samples immediately.
- It stabilizes the DNA for several months at room temperature and at -20 or -80 indefinitely.
- Eliminate odor during processing.
- Compatible with a variety of purification systems. The use of our DANAGENE MICROBIOME FECAL DNA Kit is highly recommended.

Reference	Product Description	Preps
0617	DANASTOOL Sample Collection MICROBIOME Kit	50
0618	DANASTOOL Sample Collection MICROBIOME Kit	250

• DANAGENE MICROBIOME Fecal DNA

has been designed for a fast and efficient purification of microbial DNA for MICROBIOME analysis from:

1. Up to 200 mg fresh and frozen human or animal stool samples.
2. Stool homeganate from 0.50-1.0 gr stool and stabilized in 8 ml DANASTOOL Sample Collection MICROBIOME Kit.

Reference	Product Description	Preps
0620	DANAGENE MICROBIOME FECAL DNA Kit	50

Sample Collection / Preservation and DNA Isolation from stool samples for MICROBIOME analysis

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Introduction

Appropriate preservation and storage of stool samples is crucial to maintain DNA integrity and microbial community composition for downstream applications and analysis, including NGS and microbiome characterization.

The ultimate goal of a microbiome analysis is to reveal the real composition of a microbial community. To achieve an accurate representation of the original sample, collection/storage and isolation methods need to prevent the alteration of the nucleic acids profile to avoid inaccuracies and biases.

DANAGEN-BIOTED has developed two products to overcome these challenging tasks:

- a. **DANASTOOL Sample Collection MICROBIOME Kit** enables collection, storage and stabilization of stool samples. It comes in a tube with a spoon and liquid preservative solution that preserves the microbiome composition.
- b. **DANAGENE MICROBIOME Fecal DNA Kit** designed for fast and easy purification of DNA from preserved stool samples using an optimized lysis method.

Materials and Methods

● Sample Collection

0.5–1.0 gr of human stool samples were collected using DANASTOOL Sample Collection MICROBIOME Kit and stored at room temperature for two months.

● Microbial DNA Isolation

Preserved stool samples were obtained at the indicated time points (Figure 1) and processed following the DANAGENE MICROBIOME Fecal DNA kit protocol.

To determine if our DNA extraction method is biased or not, we have used a mock microbial community containing known quantities of different microbes.

● Microbial DNA Isolation

The samples were processed and analysed with the ZymoBIOMICS Service: Targeted Metagenomic Sequencing (Zymo Research, Irvine, CA).

Results

Microbial composition of stool samples preserved at room temperature is unchanged after 15 days and with minimum changes after two months stored in DANASTOOL preservative solution. Samples had a constant microbial composition (Figure 1).

Conclusion

The DANASTOOL preservative solution preserves microbiota profiles for unbiased and reproducible results and eliminates sample variability.

Furthermore, the preservative solution and our DNA isolation method maintain DNA integrity.

In this paper we demonstrate that DANASTOOL Sample Collection MICROBIOME Kit preserves DNA profile of microbial samples stored at room temperature for one or two months, making it ideal for the transportation of stool samples for MICROBIOME Analysis.

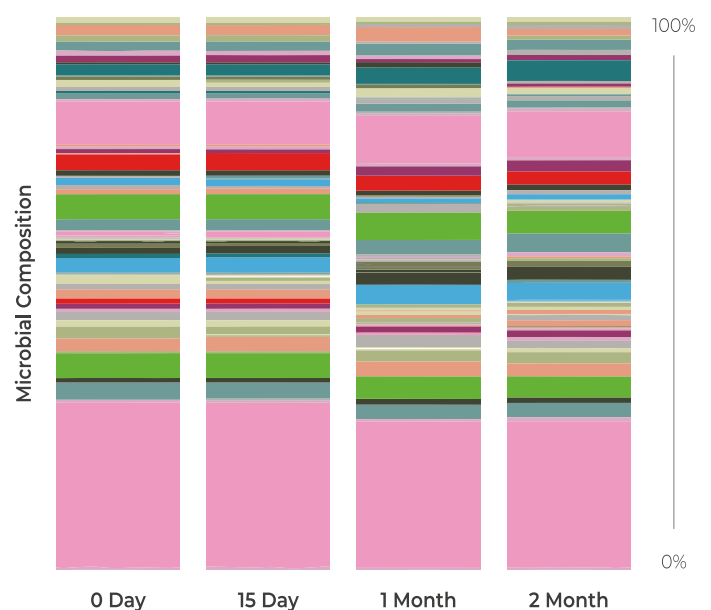


Figure 1. Stool Samples with DANASTOOL preservative solution Species.

► Oral Samples



Saliva

The microorganisms found in the human oral cavity have been referred to as the oral microflora, oral microbiota, or more recently as the **oral microbiome**.

Human oral cavity harbors the second most abundant microbiota after the gastrointestinal tract.

The **oral microbiome** is one of the most diverse of any human-associated microbial community. The oral microbiome is a causative factor in conditions such as dental caries, periodontal disease, and halitosis, and has also been implicated as a reservoir for infection at other body sites and in the pathogenesis of non-oral diseases, such as inflammatory bowel disease.

DANAGEN-BIOTED has developed a complete system for the study of **ORAL MICROBIOME**:

1. DANASALIVA Sample Collection MICROBIOME Kit

is an all-in-one collection kit for the collection and stabilization of microbial DNA from saliva. It contains a non-lytic buffer that preserves microbial community at least 1 year. The stabilization is instant and the buffer prevents bacterial growth, so the sample provides a representative snapshot of the microbial community that remains unchanged from collection to processing.

Specifications

- All-in-one devices for optimal self-collection.
- Standardize sample collection.
- Stabilize microbial DNA at ambient temperature at least 1 year.
- Provide a snapshot of the saliva microbiome.
- Suitable for NGS downstream applications.



2. DANAGENE MICROBIOME SALIVA DNA Kit

has been designed for a fast and efficient purification of microbial DNA from saliva samples.

Specifications

- Designed for rapid purification of highly pure microbial DNA from saliva samples.
- Silica-membrane technology with MiniSpin columns.
- Bead Microtubes for efficient lysis included in combination liquid Proteinase K.
- Sample material: saliva / preserved saliva samples.
- Typical yield: Approx. 2-20 µg depends on patient.
- Preparation Time: 35 min.
- Elution volume: 100 µl.

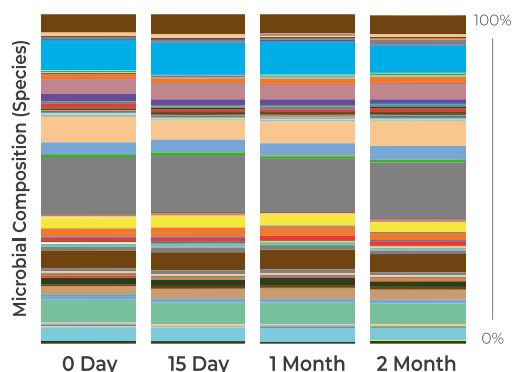


Figure 1. Stool Samples with DANASTOOL preservative solution Species.

Microbial composition of saliva sample preserved at room temperature is unchanged after two months with DANASALIVA Sample Collection MICROBIOME

Kit. Saliva samples were taken using our system and stored at room temperature. They were sampled at the indicated time points and processed with the DANAGENE . The isolated DNA was the subjected to microbial composition profiling via 16S rRNA gene targeted sequencing. Samples had a constant microbial composition. (Figure 1)

Reference	Product Description	Preps
0603.45100	DANASALIVA Sample Collection MICROBIOME Kit	100
0603.45500	DANASALIVA Sample Collection MICROBIOME Kit	500
0603.451000	DANASALIVA Sample Collection MICROBIOME Kit	1000
0623	DANAGENE MICROBIOME SALIVA DNA Kit	50

Life Science Research



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