

## Sample Collection & Preservation from Stool Samples for MICROBIOME Analysis using Canvax Solutions

### 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.

Canvax™ has developed two products to overcome these challenging tasks:

- Canvax™ Stool Sample Collection & Stabilization Kit, for a Convenient, Versatile & Easy Collection, Transportation and Storage of Stool samples for Microbiome Analysis.
- Canvax™ HigherPurity™ Stool DNA Extraction Kit, for a Reliable, Easy & Convenient High-quality DNA Isolation from Fresh or Frozen Stool Samples.

### Materials and Methods

#### Sample Collection

0.5–1.0 gr of human stool samples was collected using Canvax™ Stool Sample Collection & Stabilization 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 Canvax™ HigherPurity™ Stool DNA Extraction 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.

#### Targeted Library Preparations, Sequencing and Bioinformatics Analysis

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 Canvax™ Stool Sample Stabilization Solution. Samples had a constant microbial composition (Figure 1).

### Conclusions

Canvax™ Stool Sample Collection & Stabilization Kit preserves Microbiota profiles for unbiased and reproducible results and eliminates sample variability.

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

In this paper we **demonstrate that Canvax™ Stool Sample Collection & Stabilization 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.**

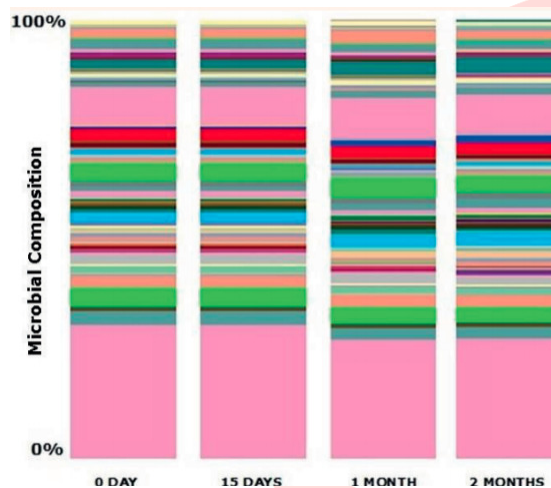


Figure 1. Stool Samples with Canvax™ Stool Sample Collection