

Product:

GutAlive[®] is a unique microbiota sampling kit designed to collect and transport biological samples in anaerobic conditions. GutAlive[®] generates an oxygen-free atmosphere enabling strict anaerobic bacteria and facultative anaerobes to survive, maintaining the original composition and diversity of the microbiota.

Characteristics:

- GutAlive[®] kit is a non-invasive medical device, operating under the IVD certification, CE labelling, and ISO 13485.
- GutAlive[®] device has a usable volume of 120 ml, with 8 centimeters height and 5 centimeters width.
- GutAlive[®] design has been patented and it is commercialized under license agreement of the patent ES201630176
- GutAlive[®] is a registered trademark of Microviable Therapeutics SL.

Applications

- GutAlive[®] It is a very convenient device to collect and transport microbiota samples (without refrigeration), stool samples and other biological samples, that preserves the original microbial profiling: identity and diversity.
- GutAlive[®] anaerobic conditions enable downstream applications like bacterial isolation, including strict anaerobic bacteria from hundreds of different species.
- GutAlive[®] enables standardization and protocol normalization of microbiome analyses and metagenomics.
- GutAlive[®] enables protocol normalization for Fecal Microbiota Transplant (FMT) and other clinical procedures.
- GutAlive[®] was developed as a user-friendly kit that contains all the necessary elements to collect biological samples.

Anaerobic Kinetics and Sample Stability:

GutAlive[®] anaerobic conditions have been tested using a qualitative method to provide an estimate on the kinetics of the anaerobic reaction inside of the device, as well as the stability of the anaerobic atmosphere.

- The anaerobic environment generated inside of GutAlive[®] was tested using commercially available indicator strips, from Merck KGaA (1.15112.001) and BD (271051).
- The color change of the indicator strips from blue to white was monitored every hour to quantify the disappearance of the blue indicator as a result of the appearance of anaerobic conditions.

- The analysis was performed with three independent biological replicates. Each biological replicate is a GutAlive® unit.
- Each GutAlive® unit was empty, no biological sample was inside.
- The indicator strips were taped inside of the device at the beginning of the experiment and the device was never opened during the experiment.
- The temperature condition was 20°C.

Results:

- GutAlive® atmosphere is completely anaerobic after 4-5 hours, at the conditions tested (empty with no biological sample, 20°C).
- Anaerobic conditions start to be generated after the first hour.
- Anaerobic conditions are kept during 5 days at the conditions tested (empty with no biological sample, 20°C).

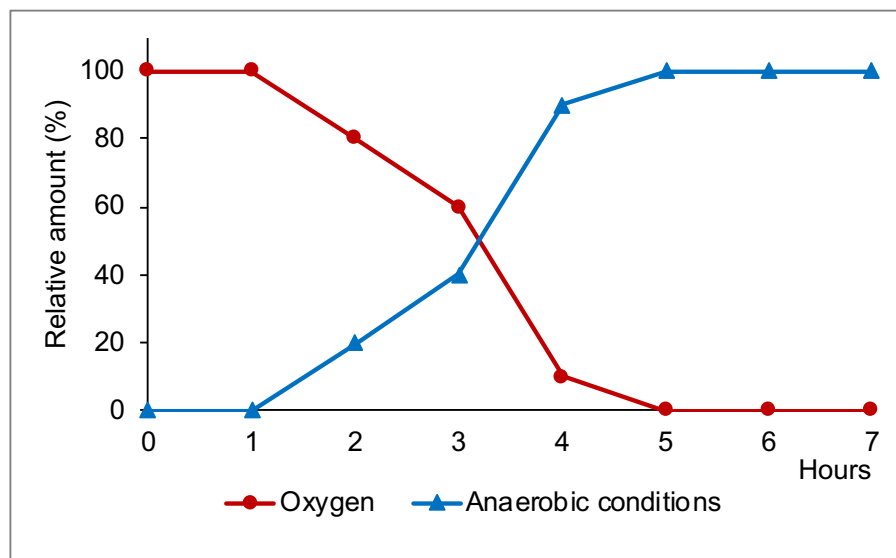


Figure 1. Kinetics of the anaerobic environment generated inside of GutAlive®



Figure 2. Anaerobic reaction inside of GutAlive® monitored every hour.