

MICROBIOME PLUS panel LONG

For the analysis and phylogenetic characterization of human microbiome communities



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4bases MICROBIOME PLUS panel LONG is a CE-IVD kit for the molecular profiling of different human microbiome communities (Table 1) through a molecular protocol for Next Generation Sequencing (NGS) technologies on Nanopore platforms.

TECHNOLOGY

MICROBIOME PLUS panel LONG kit contains all reagents needed for the amplification of bacterial (16S), fungal and mold (18S, ITS1, 5.8S, ITS2) genes and library multiplexing for NGS sequencing using Nanopore platforms (Table 2). With its long reads-based approach, MICROBIOME PLUS panel LONG kit allows for structural variant detection, metagenomics studies and higher specificity in taxa detection thanks to Nanopore sequencing.

This kit can be used in monitoring studies of the human microbiome (e.g., cancer therapy) as well as for environmental screening and approaches (e.g., surface swabs, soil contamination, ...).

WORKFLOW

The MICROBIOME PLUS panel LONG kit is part of an amplicon-based family solution of 4bases molecular technologies. Its accuracy and specificity in detecting different taxa, coupled with its straightforward protocol (<1.5 hours hands-on-time), are the key to its reliability.

Thanks to [4bases collaboration with One Codex](#), the sequencing results are easily and efficiently accessible in minutes.

SOFTWARE ANALYSIS

This collaboration merges the reliability and efficiency of 4bases CE-IVD microbiome kits with the unique accuracy and sensitivity of One Codex to characterize microbial communities in clinical samples.

Thanks to the integration of One Codex database and pipeline analyses with 4bases long reads sequencing solutions, clinical laboratories can perform routine microbiome analyses as well as short- and long-term monitoring in easy, straightforward and efficient solutions.

VALIDATION

The MICROBIOME PLUS panel LONG kit has been validated both internally and in clinical laboratories, and the whole protocol was tested on DNA standards and clinical samples (Figure 1).

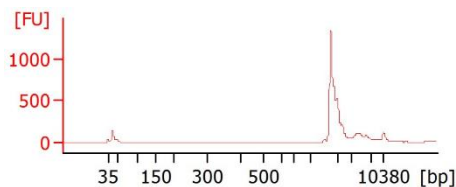


Figure 1. Agilent Bioanalyzer profile of a final MICROBIOME PLUS panel LONG library.

Table 1. List of target regions in MICROBIOME PLUS panel LONG kit.

| Genes and regions | Target microorganisms |
|-------------------|---------------------------------|
| 16S V1-V2 | Vaginal microbiome |
| 16S V3-V4 | Gut microbiome |
| 16S V5-V6 | Lactose enzymes |
| 16S V7-V8- V9 | Surface and soil microorganisms |
| ITS1 | Fungi and Mold |
| 5.8S | |
| ITS2 | |
| 18S (V1-V9) | |

Table 2: Samples per MICROBIOME PLUS panel LONG sequencing run on Nanopore sequencers.

| Flow Cell | Samples per Flow Cell (Coverage 100,000x) | Nanopore sequencer | Flow Cells per sequencer* |
|-------------|---|----------------------|---------------------------|
| FLO-FLG114 | 4 | Flongle | 1 |
| FLO-MIN114 | 64 | MinION | 1 |
| | | GridION | Up to 5 |
| FLO-PRO114M | 288 | PromethION 2/P2 Solo | Up to 2 |
| | | PromethION 24 | Up to 24 |
| | | PromethION 48 | Up to 48 |

* Multiple Flow Cells can be used during the same run session, either with different libraries or with the same library to increase sequencing depth.

ORDERING INFORMATION **

| | Product | REF |
|--------------------------------|----------------------------|------------------------------|
| LIBRARY AMPLIFICATION REAGENTS | MICROBIOME PLUS panel LONG | H1130L-16 (16 test) |
| | MICROBIOME PLUS panel LONG | H1130L-96 (96 test) |
| MULTIPLEXING REAGENTS | BARCODE ONT Set 16 | R8001-16 (16 test) |
| | BARCODE ONT Set 96 | R8002-96 (96 test) |
| NANOPORE ADAPTERS | NANO ADAPTER | M1050-6 (6 sequencing run) |
| | | M1050-24 (24 sequencing run) |

** The reagents required for sequencing on Nanopore platforms have to be purchased separately: contact 4bases for further information.

CONTACT US

For more detailed information regarding validated solutions for automatic library preparation, please contact us at info@4bases.it.

For further information on MICROBIOME PLUS panel LONG please contact us at support@4bases.it.



www.4bases.ch