



Microbiome test kit

Individual evaluation:

The BIOMES logo consists of the word "BIOMES" in a bold, sans-serif font, with a stylized circular icon to the left containing a colorful, abstract shape.

BIOMES

2020 - **Place 2** of 5

2018 - **Place 1** of 5



Author: Stefanie Wiesshak

Stefanie Wiesshak worked as a technical assistant in microbiology and biochemistry and also studied geosciences at the University of Stuttgart. Today she offers freelance copywriting, editing and design.



Academic supervision:

Dr. Kristin Neumann

Author & Co-Founder MyMicrobiome.info

Developed the first and only standard for Microbiome friendly cosmetics and personal care products and also probiotic food supplements.

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MyMicrobiome AG is an independent and scientifically based certification institute for microbiome-friendly products.




Microbiome
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Microbiome test kits – a thorough checkup

Evaluation Biomes, October 2020



The Berlin Biotech company  **BIOMES** sells a testkit (INTEST.pro) and nutrition supplements.

In our  [first evaluation in 2018](#) it was the winner of the competition.

Evaluation criteria:



excellent (++)



good (+)



potential to
improve (+/-)



improvement strongly
recommended (-)

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1. Sideshow Assessment

The test is available internationally (**availability +**), not only in the BIOMES online shop, but also at Amazon and also some pharmacies, dietitians, or fitness centers (**order: +**). The cost of 139,00 EUR is comparatively low (**price: +**). The website is available in German, English, Spanish and French (**Website language +**).

Handling of tests

The instruction is printed big enough and easy to read (easiest in comparison to the other testkits **(+)**). The packing is made from cardboard with an opening on the inside where the (relatively small) sample jar can be placed stable **(+)**. A pinpoint amount is sufficient **(+)**, it can be transferred from the toilet paper to the sample jar with stabilizer using a cotton swab that comes with the kit. Depending on the type of stool (in that case of testing Bristol type 2 on the day of testing) the transfer from toilet paper to swab was a bit difficult **(-)**. The swab has to be disposed by the client, which is a hygienic issue **(-)**.

For the return of the sample, the test-kit features a stamped, self-addressed envelope, shipping is only free in Germany (**shipping: +/-**). On the website's dashboard, one can then track the sample by using a bar code and make sure, no confusion happens. By activating the code, a questionnaire has to be filled in. The evaluation time was announced with 2 – 4 weeks and was completed within 3 weeks in the test run (**evaluation time: +**).

2. Assessment quality of methods of analysis and evaluation

The sample is protected over the whole process by a stabilizer (**Stabilization: +**). A blank sample to double check the quality is added to the test kits on a regular basis. We suggest to always include a blank sample (**blank sample: +/-**).

After preparing the sample, it is scanned by a high-throughput sequencing technique (**method of identification: +/-**). The website contains no information about the analysis being performed by 16S-rRNA sequencing. However, this is to be assumed.

The classification includes information of strain, family, genus, and type, but – due to the method of analysis – not the possible strain level (**taxonomic level: +/-**).

Qualität der Datenbanken

The sequences are aligned with all known microbe genomes and can be allocated taxonomically when matching **(+)**. The personal data are complied with a company owned knowledge database. This is based on over 6,000 scientific and clinical studies validated by BIOMES (only valid outcome enter the database **(+)**).

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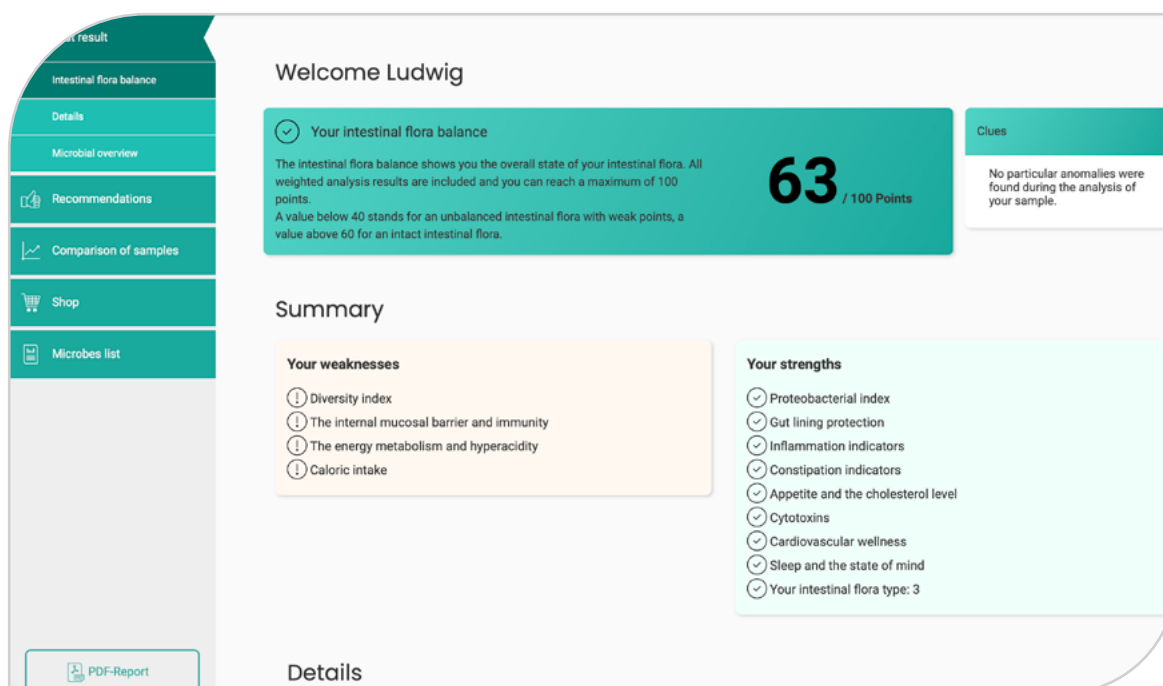
Furthermore, the database can draw from the results of over 20,000 test samples. Sub-groups of similar profiles of healthy people are created. The analyzed samples are compared to reference values (for example average values) of similar profiles (+).

The questionnaire collects the personal circumstances like medical issues, ethnicity, as well as general information like nutrition and lifestyle habits, age, weight and height, but could be more detailed, in our opinion (questionnaire: +/-). The dashboard on the website contains a PDF stating that the test does not replace medical consultancy in the case of illness. However, this disclaimer is missing at the actual order sub-page (information lifestyle product: +/-).

3. Assessment results

The results are displayed on the dashboard in the personal account and as a report in PDF format (output format: +/-). The access via app would be a perfect addition, since this is the most popular output format among the customers. The dashboard has a very clear presentation (arrangement: +) and starts off with a little survey on identified strengths and weaknesses before preceding to the results.

The results are displayed by categorizing fields of effect and tasks: Certain microbes and their share in the sample are seen as indicators for the mentioned categories.



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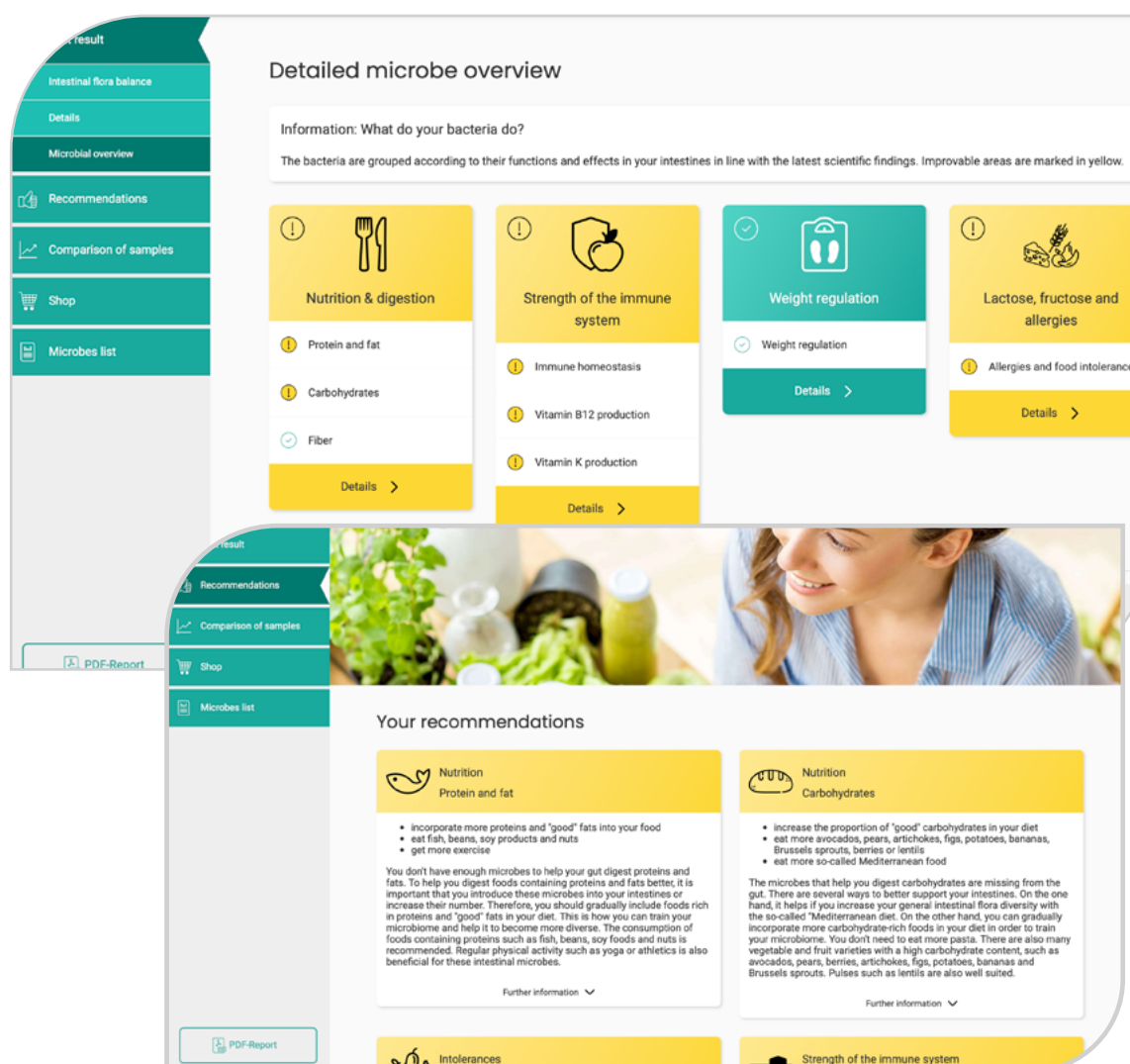


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Along with the results, the personal dashboard comes with many additional and easy to understand information about the effects and tasks, the involved microbes (different colors represent personal values and limit values), influence of food, possible symptoms etc. (**understandability: +**). The information can be “flipped open”, what keeps the structure very clear and the correlation to the respective category is kept. The microbes involved, however, are named by genus in the analysis, which is not sufficient to allocate the effect. The analysis should always name the smallest possible level that was identified to ensure a scientific derivation (**scientific derivation +/-**). Whenever the analyzed situation requires action, recommendations are given and sources of backup literature are added (**references: +**). A separate sub-page of the dashboard displays a survey of all microbes found (**list of microbes: +**). It is not explicitly mentioned but (clarified after inquiry) the results are displayed in percent.



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The analysis lists the following fields of effect on the body:

(In brackets the results of the analysis)

- Balance of gut flora (63/ 100)
- Index of diversity (good)
- Proteo index (share of 2,95% should be between 2,5 and 4,6 %; good)
- Protection of mucosa (good)
- Indicators for inflammation (good)
- Indicators for constipation (good)
- Gut mucosa and immunity (conspicuous)
- Appetite and cholesterol (good)
- Energy metabolism and hyperacidity (conspicuous)
- Cytotoxines (good)
- Cardiovascular influencers (good)
- Sleeping state and general mood (good)
- Type of gut flora (enterotype 3)
- Intake of calories (ratio Firmicutes to Bacteroidetes) (high)

The following fields of tasks are differentiated :

(In brackets the results of the analysis)

- Nutrition and digestion (conspicuous)
- Strength of immune system (regulation of immune system, production of vitamin B12 and K) (conspicuous)
- Body weight (good)
- Intolerances (conspicuous)

According to BIOMES, the results of "intolerances" are not only based on the answers of the questionnaire. The analysis searches explicitly for bacteria capable of enzyme-based metabolism of food particles that would be harder to digest otherwise (e.g. dairy products). People lacking those enzymes tend to have intolerances resulting from insufficient digestion. The scientific evidence for that correlation is linked in the analysis part. For the future, BIOMES is planning to analyze not only bacteria, but also enzymes for more detailed results.

Regarding the main issue of the test person (Leaky Gut syndrome), we estimate the informative value of the analysis as excellent.

Result: High concentration of Butyrate synthesizing bacteria, Bifido bacteria low, ratio of further mucosa-supporting bacteria rated good, but comparatively low 📈 this fits the test persons conditions very well.

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A sub-page summarizes nutrition recommendations briefly. The summary focusses on the deficient fields of tasks. Also, a recommendation regarding intolerance is given. However, the further recommendations list the exact nutrients that are categorized and potentially incompatible, here. A chronologic recommendation of how to implement dietary changes could make sense. The page offers only the set up of a weekly plan and this is also only possible once. **BIOMES does not offer individual consultancy explicitly, but one can join the private Facebook group or consult the BIOMES nutrition experts of the customer-service.** (nutrition recommendations: +/-)

The recommendations contain also two products of partner labels with their online shops. According to BIOMES, all recommended products are validated by them based on human and in-vitro studies. **It remains open if the legal guidelines are met.**

Report outside of the dashboard:

The results come as short version (6 pages) and extended version (23 pages) in PDF-format. The short version are the first 6 pages of the long version and therefore unnecessary.

The long version contains:

- The evaluation of fields of tasks and effects without further explanation (can be seen as hint where further action is needed)
- A tabular overview of some important microbes with the limit value, personal value and brief description of the microbes
- Recommendations (nutrition, product)
- Details on the fields of effect and tasks with general explanations and scale validation of the different microbes and with limit and personal value
- General information on the importance of the gut flora
- The full list of all microbes found, taxonomically sorted with average values (from the reference database) and the personal difference

The detailed report in PDF format (long version) gives a good first overview on the personal profile. If one wants to involve deeper in the matter, you will not get around using the dashboard. This should be mentioned in the PDF, as well. The BIOMES website contains a lot of additional information on the interesting world of the microbes (Your intestinal test/ interesting facts/ blog).

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Results BIOMES:

	<u>Rank 1:</u> MyBioma	<u>Rank 2:</u> BIOMES	<u>Rank 3:</u> Atlas Biomed	<u>Rank 4:</u> VIOME	<u>Rank 5:</u> Elsavie
Excellent (++)	0	0	0	2	0
Good (+)	16	14	13	8	10
Potential to improve (+/-)	7	9	6	9	10
Improvement strongly recommended (-)	0	0	4	3	4
Grade	1,30	1,39	1,61	1,63	1,75

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