

# Identification and cultivation of anaerobes

Proven solutions, enhanced efficiency



## Anaerobic bacteria — all the tools you need

Anaerobic and microaerophilic bacteria require specific cultivation conditions, and to ensure optimal growth conditions, it is essential to use proven solutions and high-quality substrates. BioMaxima's comprehensive product portfolio includes everything necessary for the identification, culture and susceptibility testing of anaerobes. A full list of available media including common modifications and forms (pre-poured plates, tubes, dehydrated and other) is available at [biomaxima.com](http://biomaxima.com)

### LAB-AGAR™ solid media and broths



#### SCHAEDLER AGAR AND BROTH

Classic Schaedler agars and broths are ideal for the isolation of anaerobic Gram (-) and Gram (+) bacteria with high nutritional requirements. We particularly recommend Schaedler media on multi-sectional plates (two or more Schaedler agar modifications on one Petri dish). For example a biplate with Schaedler agar with kanamycin and vancomycin in one section, which facilitates growth of anaerobic Gram (-) bacteria, and in the second section - Schaedler agar with colistin and nalidixic acid, facilitating growth of anaerobic Gram (+) bacteria and effectively inhibiting the growth of Gram (-) microorganisms.

Please note – for larger orders, other combinations of media on multi-sectional plates are available on demand.

#### SOLID MEDIA

Item no.	Name	Description	Packaging
PP 0003	Schaedler LAB-AGAR™ + 5% SB + vit. K3	Schaedler agar with sheep blood and vit. K	10 plates
PP 0039	Schaedler LAB-AGAR™ + 5% SB + CNA	Schaedler agar with sheep blood, vit. K, <b>colistin and nalidixic acid</b>	10 plates
PP 0014	Schaedler LAB-AGAR™ + 5% SB + vit. K3 + K + V	Schaedler agar with sheep blood, vit. K, <b>kanamycin and vancomycin</b>	10 plates
PP 0013	Schaedler LAB-AGAR™ + 5% SB + vit. K3 + V + N	Schaedler agar with sheep blood, vit. K, <b>neomycin and vancomycin</b>	10 plates
PD 093	Schaedler LAB-AGAR™ + 5% SB + CNA / Schaedler LAB-AGAR™ + 5% SB + vit. K3 + K + V	Schaedler agar with sheep blood, vit. K, <b>colistin and nalidixic acid</b> / Schaedler agar with sheep blood, vit. K, <b>kanamycin and vancomycin</b>	10 biplates (two sections)
PD 021	Schaedler LAB-AGAR™ + 5% SB / Schaedler LAB-AGAR™ + 5% SB + vit. K3 + K + V	Schaedler agar with sheep blood and vit. K / Schaedler agar with sheep blood, vit. K, <b>kanamycin and vancomycin</b>	10 biplates (two sections)
PD 022	Schaedler LAB-AGAR™ + 5% SB / Schaedler LAB-AGAR™ + 5% SB + vit. K3 + V + N	Schaedler agar with sheep blood and vit. K / Schaedler agar with sheep blood, vit. K, <b>neomycin and vancomycin</b>	10 biplates (two sections)

#### BROTHS

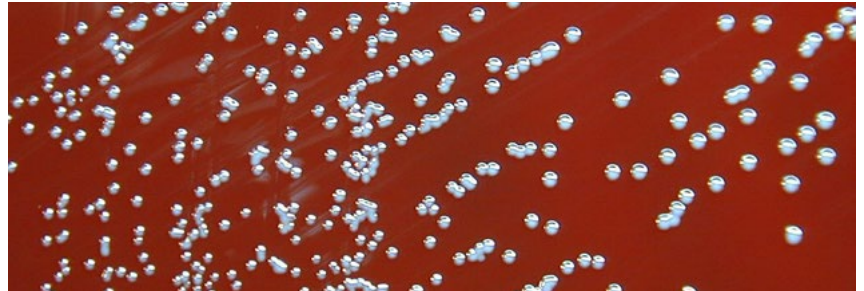
PW 3014	Schaedler Broth + vit. K3	Enrichment broth for anaerobic and aerobic bacteria	50 x 5 ml
PW 3268			50 x 9 ml
PW 3018			50 x 10 ml
PW 3032	Schaedler Modified Broth	Modified broth (with small addition of agar) for the cultivation of anaerobic and aerobic bacteria	50 x 5 ml
PW 3279			50 x 9 ml
PW 3204			50 x 10 ml



**BRUCELLA AGAR AND BROTHS**

*Brucella* LAB-AGAR™ is recommended for the isolation and cultivation of *Brucella* spp. and other bacteria with high nutritional requirements. The medium is available with the horse blood or sheep blood.

The Brucella agar medium was originally developed for isolating bacteria of the genus *Brucella*, but today it is also widely used for cultivating other fastidious aerobic and anaerobic microorganisms.



**SOLID MEDIA**

Item no.	Name	Description	Packaging
PP 0082	Brucella LAB-AGAR™ + 5% SB	Brucella agar with sheep blood and vit. K	10 plates
PP 0120	Brucella LAB-AGAR™ + 5% HB	Brucella agar with horse blood and vit. K	10 plates

**BROTHS**

PW 3293	Brucella Broth + vit. K1	Brucella broth with vit. K	50 x 3 ml
PW 3294			50 x 5 ml
PW 3296			50 x 9 ml



**DETECTION OF *Clostridioides difficile***

**C. difficile LAB-AGAR™** and chromogenic **C. difficile LAB-AGAR™** media are very useful in the diagnosis of *C. difficile* infections.

**C. difficile LAB-AGAR™** is a standard medium for the selective isolation of *C. difficile* from clinical samples. It contains ceftioxin, cycloserine, and 7% defibrinated sheep blood. Results are typically read after 24-48 hours of incubation.

**Chromogenic C. difficile LAB-AGAR™** provide results within 24 hours. *C. difficile* grow as white colonies fluorescent under UV light.

Most diagnostic algorithms for *C. difficile* infections include the use of **immunochromatographic assays** to detect glutamate dehydrogenase (GDH) and *C. difficile* toxin (A/B). BioMaxima produces tests for the detection of GDH and A/B toxins, as well as a combined test (GDH + A/B toxins).



**SOLID MEDIA AND RAPID TESTS**

Item no.	Name	Description	Packaging
PP 0004	<i>C. difficile</i> LAB-AGAR™	Selective medium for the isolation of <i>C. difficile</i> from clinical samples	10 plates
PP 0137	Chromogenic <i>C. difficile</i> LAB-AGAR™	Selective <b>chromogenic</b> medium for the isolation of <i>C. difficile</i> from clinical samples	10 plates
1-320-K020	<i>C. difficile</i> GDH	Rapid immunochromatographic test for detection of <i>C. difficile</i> GDH antigen.	Cassette and applicator, 20 pcs.
1-321-K020	<i>C. difficile</i> A+B	Rapid immunochromatographic test for detection of toxin A and toxin B of <i>C. difficile</i>	Cassette and applicator, 20 pcs.
1-327-K020	<i>C. difficile</i> GDH+A+B	Rapid immunochromatographic test for detection of GDH antigen, toxin A and toxin B of <i>C. difficile</i>	Cassette and applicator, 20 pcs.



**DETECTION OF  
*Campylobacter* spp.**

For the cultivation and identification of *Campylobacter* bacilli, we recommend **CCDA LAB-AGAR™** and **Campylobacter Selective LAB-AGAR™** (also available with the addition of sheep's blood).

We also recommend the chromogenic **Campylobacter LAB-AGAR™** medium, designed for the detection and determination of the thermotolerant number of *Campylobacter* spp. from food and clinical samples.

Our offer also includes immunochromatographic tests for the detection of *Campylobacter* spp.



**SOLID MEDIA AND RAPID TESTS**

Item no.	Name	Description	Packaging
PP 0048	Campylobacter Selective LAB-AGAR™	Selective medium for the isolation of <i>Campylobacter</i> from clinical samples	10 plates
PP 0017	CCDA LAB-AGAR™	Selective medium for the isolation of <i>Campylobacter</i> from food and other samples. (Acc. to ISO 10272)	10 plates
PP 0163	Chromogenic Campylobacter LAB-AGAR™	Selective chromogenic medium for the isolation of <i>Campylobacter</i> from clinical samples	10 plates
1-319-K020	Campylobacter Rapid Test	Rapid immunochromatographic test for detection of <i>Campylobacter</i> bacilli	Cassette and applicator, 20 pcs.



**DETECTION OF  
*Bacteroides fragilis***

**BBE LAB AGAR™** is used for the selective isolation of *Bacteroides fragilis* from clinical specimens. The addition of bovine bile and gentamicin inhibits the growth of *Porphyromonas* and *Prevotella*. The growth of *B. fragilis* causes blackening around the colonies.



**SOLID MEDIA AND ANTIBIOTIC DISCS**

Item no.	Name	Description	Packaging
PP 0005	Gardnerella vaginalis LAB-AGAR™	Selective medium for the isolation of <i>G. vaginalis</i> from clinical samples	10 plates
E171061	Metronidazole Discs 50	Antibiotic discs for identification of <i>G. vaginalis</i>	1 blister (50 pcs.)
E112026	Trimethoprim 5	Antibiotic discs for identification of <i>G. vaginalis</i>	1 blister (50 pcs.)
PP 0081	BBE LAB AGAR™	Selective medium for the isolation of <i>Bacteroides fragilis</i> group from clinical samples	10 plates



**DETECTION OF  
*Gardnerella vaginalis***

**Gardnerella vaginalis LAB-AGAR™** medium with the addition of human blood to enable the study of hemolytic reactions; designed for the selective isolation of *G. vaginalis*.



## Antimicrobial susceptibility testing (AST) of anaerobes



### FASTIDIOUS ANAEROBE AGAR WITH 5% HORSE BLOOD (FAA-HB)

**Fastidious Anaerobe Agar with horse blood (FAA-HB)** is a typical medium for the cultivation and antimicrobial susceptibility testing of anaerobic bacteria (AST). The medium is recommended by the European Committee on Antimicrobial Susceptibility Testing (EUCAST) for disc diffusion testing of selected fast-growing anaerobic bacteria including *Bacteroides spp.*, *Prevotella spp.*, *Fusobacterium necrophorum*, *Clostridium perfringens* and *Cutibacterium acnes*.

FAA-HB is available in standard 90 mm Petri dishes, **as well in 120 mm and 140 mm diameter plates** for more convenient assay preparation.

Fastidious **Anaerobe Agar with horse blood** has been standardized for antimicrobial susceptibility testing (AST) assays using Biomaxima AST discs.

Our offer also includes reference strains from the first passage, which are useful for quality control, and possess predictable

and repeatable morphological and biochemical characteristics.

Selectrol® strains come from the National Collection of Type Cultures (NCTC®) and the National Collection of Pathogenic Fungi (NCPF®). International strain designations such as ATCC® are listed for reference only. Selectrol® is the first generation microorganisms in the form of freeze-dried discs, available in vials of 5, 10 or 25 pieces. Freeze-dried discs with strains can be revived directly on an agar plate or in a nutrient broth.

### SOLID MEDIA AND REFERENCE STRAINS

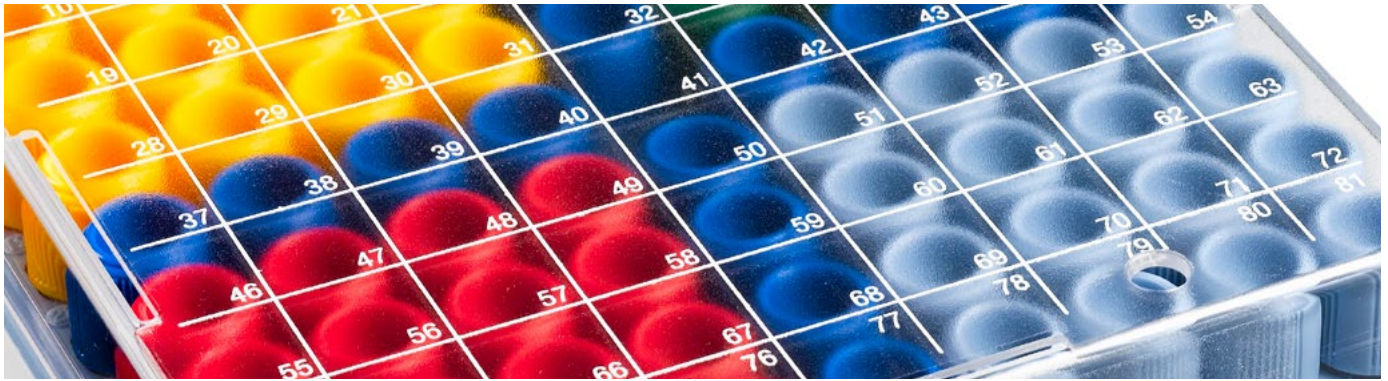
Item no.	Name	Description	Packaging
PP 0270	Fastidious Anaerobe LAB-AGAR™ + 5% HB	Medium for the cultivation and antimicrobial susceptibility testing of anaerobic bacteria	10 plates
PP 0271	Fastidious Anaerobe LAB-AGAR™ + 5% HB	Medium for the cultivation and antimicrobial susceptibility testing of anaerobic bacteria	5 plates (ø 120 mm)
PP 0272	Fastidious Anaerobe LAB-AGAR™ + 5% HB	Medium for the cultivation and antimicrobial susceptibility testing of anaerobic bacteria	5 plates (ø 140 mm)
MM44-10	<i>Bacteroides fragilis</i> NCTC 9343 / ATCC® 25285	Reference strain (first passage)	10 pcs.
MM45-10	<i>Clostridium perfringens</i> NCTC 8237 / ATCC® 13124	Reference strain (first passage)	10 pcs.

## PetriSphere — growing anaerobes in the right atmosphere

The PetriSphere system, developed by the Swiss company Biotool, is the ideal solution for small and medium-sized microbiology laboratories. Simple and convenient to use, the device provides optimal conditions for the growth of anaerobic microorganisms and eliminates the need for disposable chemical cartridges for anaerostats, significantly reducing analysis costs.

- Proper and reproducible cultivation conditions
- Getting the right atmosphere quickly  
- at the push of a button
- Simple and convenient operation
- Pre-set modes with different pressure/ atmosphere settings for different requirements
- Compatible with various anaerostates
- Competitive price





## Microbank™ — Long term maintaining of anaerobic strains

BioMaxima offers Microbank™ cryovials with beads for storage and convenient retrieval of bacterial and fungal cultures. According to a study by Dr Val Hall of the Anaerobe Reference Laboratory at Cardiff University Hospital in Wales, the 100 most commonly isolated clinical

strains of pure anaerobic bacterial species in the hospital environment, protected by Microbank™ beads and frozen at -80°C, remained viable at 10 years (and were previously controlled five and seven years after freezing)\*.

Microbank™ vials, by renowned company Prolab Diagnostics, are convenient to use and guarantee proper storage of strains for many years. They are supplied with beads and hypertonic solution (a version without solution is also available) in boxes with a „see-through” lids, suitable for deep freezing.

\* Microbank™ Worldwide Performance Portfolio; <https://www.pro-lab-direct.com/v/vspfiles/microbank/microbank-wwp-portfolio.pdf>

Item no.	Name	Description	Packaging
PL.170C	Microbank™ 2D	Microbank™ vials containing 25 beads and cryopreservative solution; different colors (blue, green, red, yellow or mixed)	1 box x 80 vials (25 beads per vial)
PL.172	Microbank™ Dry	Microbank™ vials containing 25 beads <b>WITHOUT</b> cryopreservative solution; different colors (blue, green, red, yellow or mixed)	1 box x 80 vials (25 beads per vial)
PL.155-1	Cryoblock	Insulated aluminum block for 20 vials	1 pc

## Rapid biochemical identification

The ANAEROTest 23 biochemical test (Erba Lachema) is designed to identify 90 species of anaerobic bacteria, most often isolated from

clinical material and food samples. One test contains 23 wells with biochemical reagents, arranged in three rows on a single plate.

Our offer also includes reagents for indole and nitrate tests.

Item no.	Name	Description	Packaging
MLT00001	ANAEROTest 23	Biochemical test for the routine identification of most typical anaerobic bacteria	40 pcs.
MLT00020	MLT Reagent for INDOL test	Reagent for INDOL test	1 pc (310 reactions)
MLT00021	MLT Reagent for NITRATE test	Reagent for NITRATE test	1 pc (460 reactions)
MLT00024	Suspension medium for ANAEROTest 23	Suspension medium	1 pc (20 reactions)
MLT00042	MLT PARAFFIN OIL STERILIZED	Paraffin oil	1 pc (750 reactions)



BioMaxima is a Polish manufacturer of microbiological media, reagents and specialized equipment for in vitro diagnostics. Our company is listed on the Warsaw Stock Exchange. With over a quarter of a century of experience in the clinical and industrial microbiology, we provide customers with the highest quality products, manufactured from substrates and components sourced from reliable suppliers only.

The year 2023 was exceptional in the company's history, as second, highly automated modern factory was built in Lublin, dramatically increasing BioMaxima's production, storage and logistics capabilities. Our offer has also expanded to include products and diagnostic systems that integrate microbiology and molecular biology.

Clinical microbiology is one of the most important areas of BioMaxima's activity. Year by year, we invest increasingly in research and development activities and continually expand our portfolio of products. We export tests and reagents to 65 countries, and we are developing dynamically.

**IF YOU WANT TO KNOW MORE, PLEASE CONTACT:**

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