

PIKA FASTORANGE® B BOUILLON

Concentrated culture medium for the detection of beer spoiling microorganisms

Cat. No. 2036-1

Description	Amount	Storage
Concentrated culture medium for the detection of beer spoiling bacteria and Dekkera (Brettanomyces) yeasts.	12 x 240 mL	Store dark at room temperature

Warning! Read the manual and the Safety Data Sheets before starting the analysis. Safety Data Sheets are available in the download area from www.pika-weihenstephan.com. All handling steps should be performed under sterile conditions. Wear appropriate protective clothing.

For in vitro use only.

Product description

PIKA FastOrange® B Bouillon is a concentrated culture medium which was developed especially to detect beer spoiling microorganisms during the brewing process and in brewery products.

Acid producing beer spoilers like Lactobacilli and Pediococci are easily detected by a color change of the culture medium from violet to yellow.

In case no other viable microorganisms are present in the sample, also Dekkera (Brettanomyces) yeasts may be detected. For the specific detection of Brettanomyces yeasts we recommend FastOrange® BRETT Bouillon (Cat. No. 2037-1).



Detectable microorganisms

Microorganism	Growth conditions
Lactic acid bacteria (Lactobacillaceae) - Lactobacillus sp. - Pediococcus sp.	aerobic and anaerobic
Acetic acid bacteria (Acetobacteriaceae) - Acetobacter sp. - Gluconobacter sp.	aerobic
Gram negative beer spoiling bacteria, including - Pectinatus sp. - Megasphaera sp.	anaerobic
Beer spoiling yeast, including - Dekkera sp. (Brettanomyces)	aerobic and anaerobic

Growth of brewer's yeast and most other yeasts is suppressed.

Depending on the sample type, the following procedures are recommended:

A. Clear samples

(e.g. beer, water, filtered samples)

- For optimal color change, add an equal volume of FastOrange® B Bouillon to the sample and mix. The final concentration of the medium is then 50%. The medium has not to be accurately measured, it is sufficient to pour it and visually judge the volume.

For example, mix app. 50mL of sample with app. 50mL of broth.

- Lower broth concentrations than 50% may be used, but will result in a decreased visibility of color change. Below a broth concentration of 30%, color change may not occur, but growth can still be monitored by turbidity and/or sediment formation. Compared to 50% broth concentration, time to visible growth may be prolonged if using lower end concentrations.

B. Yeast containing samples (e.g. fermenter sample or turbid sample)

- For optimal color change, equal volumes of sample and medium are mixed as described for clear samples (ref. above).

Important! We strictly do NOT recommend using less than 50% final broth concentration for this sample type, otherwise yeast growth will not be sufficiently inhibited and the color change may become hard to detect or even not detectable.

- (Optional) For yeast analysis, serial enrichment by one of the following methods (see table below) often gives best results.

We also recommend serial enrichment if the broth color changes to yellow immediately upon mixing sample and medium.

Serial enrichment	Method
Option A: Second enrichment	a. After 3 days of enrichment, transfer half of the enriched sample (from 1. above) to a fresh sterile vessel b. Add an equal amount of FastOrange® B Bouillon to the fresh vessel containing the first enrichment c. Incubate at 25 ± 2 °C for 3-5 more days
Alternative: Option B: Additional enrichment	a. After 3 days of enrichment, add an equal volume of fresh FastOrange® B Bouillon to the enriched sample (from 1. above), further enrichment in the same vessel b. Incubate at 25 ± 2 °C for 3-5 more days

C. Swab samples and membrane filters

1. FastOrange® B Bouillon is diluted to a concentration of 50% with equal volumes of sterile water or sterile beer.

Diluent	Application	Advantage
Sterile beer	For process samples and product relevant swabs (e.g. from filler area)	The beer mixture provides a selective medium for enrichment of typical beer spoiling bacteria
Sterile water	For swab samples and hygiene monitoring	Compared to beer, the water mixture provides growth for a broader range of microorganisms as the inhibitory effect of hops is lacking

2. Put the swab or membrane filter together with diluted FastOrange® B Bouillon into a sterile vessel.

Incubation of enriched samples

Incubate at 25 ± 2°C for the following time period:

Analysis method	Incubation time
PCR	2-3 days
Visual evaluation	3-7 days

Results of visual evaluation

Sample type	Samples have to be regarded as positive if:
Clear samples	If using 50% of broth <ol style="list-style-type: none"> 1. Color change from violet-brown to yellow 2. Turbidity/sediment formation
	If other enrichment conditions are used <ul style="list-style-type: none"> ○ Reduced broth concentration below 50% ○ Decreased visibility of color change ○ Increased time to visible growth ○ Below a broth concentration of 20%, no visible color change will occur, but growth can be monitored by turbidity/sediment

Yeast containing samples	Bacteria <ol style="list-style-type: none"> 1. Color change from violet-brown to yellow 2. Increasing turbidity; often together with a yellowish sediment at the bottom
	Yeasts <ol style="list-style-type: none"> 1. If a high yeast concentration is present, color change to yellow may occur directly after addition of broth
Swabs and membrane filters	<ol style="list-style-type: none"> 1. Color change from violet-brown to yellow 2. Turbidity/sediment formation
For all sample types	Other microorganisms including indicator- and accompanying flora are detected by turbidity and potential sediment, here no color change to yellow

We recommend

- Microscopic examination or PCR analysis to verify the presence of beer spoiling bacteria in positive enrichments.
- Serial enrichment if an immediate color change occurs after the sample is mixed with broth.

General information

Store the product in the dark at room temperature (max. 25°C). Cooling below 25°C is NOT necessary.

Due to manufacturing, slightly differences in color of culture medium may occur between bottles. This is NOT influencing product quality.

Best before date for unopened product is given on the outer label. After opening we cannot guarantee for shelf life.

The product is not suitable for human or animal consumption. It must not be used for the direct propagation of microorganisms which later are used for food production or might get into contact with food.

FastOrange® B Products

B Bouillon	(12 x 240 mL)	2036-1
B Agar	(12 x 170 mL)	2036-2
B Ready to Use Tubes	(48 x 5 mL) with 48 Swabs	2036-3
B Tubes	(48 x 5 mL)	2036-10
B Enrichment Bottles	(15 x 50 mL)	2036-11

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Notes: The relevant antibiotics/fungicides contained in the medium fall short of critical values that require monitoring or declaration according to regulation (EG) 1907/2006 (REACH). When properly applied, the medium may be disposed of through the normal sewage system. It is strongly recommended to inactivate the live microorganisms in any enriched sample by heating to 121°C/250°F for 20 min (autoclave) to exclude a release of live microorganisms. Although this information was collected thoroughly, we cannot guarantee that any of the content is incomplete or incorrect. We do not take over any warranty for consequences which are resulting from improper handling or incorrect use of this product. Additionally, always comply with the applicable laws, regulations and directives of your country. PIKA Weihenstephan® and FastOrange® are registered trademarks in Germany and other countries.