Technical Data Sheet

Universal Beer Agar (UBA Medium)

Ordering number: 1.00445.0500

Agar for the detection of beer spoilage microorganisms.

Universal Beer Agar is based on the formulation developed by KOZULIS and PHAGE (1968).

Mode of Action

The basal medium is a non-selective agar rich in nutrients that supports the growth and recovery of microorganisms. From a brewer's point of view, only those bacteria and yeasts, which are capable of growing under brewing conditions, are of real significance. The incorporation of beer in the medium adds hop constituents and alcohol which eliminate many airborne contaminants not originating from pitching yeasts, wort or beer, thus minimizing false positive results. Also it stimulates the growth of beer spoilage organisms, such as Lactobacilli, Pediococci, Acetobacter, Zymomonas spp. and wild yeast strains, which may be found infecting the pitching yeasts, the cooled wort or during fermentation or storage of the finished beer.

For the detection of bacterial contaminants in pitching yeasts, cycloheximide (1 mg/l) may be added.

Typical Composition (g/L)

Universal Beer Agar (UBA Medium)	
Peptonized milk	15.0
Yeast extract	10.0
D(+)-glucose	10.0
Tomato juice	7.0
Dipotassium hydrogen phosphate	0.5
Potassium dihydrogen phosphate	0.5
Sodium chloride	0.01
Iron(II) sulfate	0.01
Manganese(II) sulfate	0.01
Magnesium sulfate	0.01
Agar-agar**	12.0

**Agar-agar is equivalent to other different terms of agar.

pH 6.3 ± 0.2 at 25°C

Preparation

Suspend 55 g in 750 ml demineralised water and heat to boiling for approx. 20-35 min until completely dissolved. Add 250 ml beer without degassing to the still hot medium, mix gently and autoclave afterwards at 121°C for 10 min.

The colour of the prepared basal medium is clear and slightly brown and that of the medium with added beer is determined by the colour of the beer.

Experimental Procedure and Evaluation

Either direct surface plating, pour plate method (with serial dilutions) or membrane filtration technique can be used.

Plates are incubated at 28-30°C for 3 days and examined daily, aerobically to detect Acinetobacter and anaerobically to detect microaerophilic Lactobacilli, Pediococci, and Zymomonas spp.

Interpretation of Results

Examine plates for growth and select identical and typical colonies e.g. via Gram- and catalase testing. Gram-negative and catalase-positive reactions are commonly identified as non-beer-spoilage microorganisms.

Storage

Store at +15 °C to +25 °C, dry and tightly closed. Do not use clumped or discolored medium. Protect from UV light (including sun light). For *in vitro* use only.

Store plates in the refrigerator and protected from daylight. The shelf-life of prepared plates is approx. 1 week and 2 months for the medium dispensed into bottles when stored at 2-8°C.

Quality Control

Control strains	Recovery rate (%). Incubation up to 3 days, 30°C
Lactobacillus brevis ATCC 8287	≥ 70
Lactobacillus lindneri DSMZ 20690	≥ 70
Pediococcus damnosus ATCC 29358 (WDCM 00022)	≥ 70
Saccharomyces cerevisiae ATCC 9763 (WDCM 00058)	≥ 70
Enterobacter aerogenes ATCC 13048	≥ 70

Please refer to the actual batch related Certificate of Analysis.

A recovery rate of 70 % is equivalent to a productivity value of 0.7

Lactobacillus brevis ATCC 8287

Pediococcus damnosus DSMZ 2091

Literature

KOZULIS, J.A. AND PAGE, H.E. A new universal beer agar medium for the enumeration of wort and beer microorganisms. Proc. **Am. Brew. Chem 52-58**, (1968).

Ordering Information

Product	Cat. No.	Pack size
Universal Beer Agar (UBA Medium)	1.00445 .0500	500 g
Anaerocult® A	1.13829.0001	1 x 10
Anaerobic jar	1.16387.0001	1 jar
Bactident® Catalase	1.11351.0001	1 x 30 ml
Gram-color Staining Set	1.11885.0001	1 pack

Merck KGaA, 64271 Darmstadt, Germany
Fax: +49 (0) 61 51 / 72-60 80
mibio@merckgroup.com
www.merckmillipore.com/biomonitoring

Find contact information for your country at:
www.merckmillipore.com/offices
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