



PRODUCT SPECIFICATION SHEET

Uniiversal Beer Agar (UB Agar) (DM282)

Intended Use

Uniiversal Beer Agar (UB Agar) (DM282) is recommended for cultivation of microorganisms significant in the brewing industry.

Product Summary and Explanation

Universal Beer Agar is a basal medium to which beer is added and is based on the formula developed by Kozulis and Page⁽¹⁾ who compared it with other media commonly used in breweries for detecting microbial contamination. It supports growth of more varieties of lactic acid bacteria and yields larger colonies in a shorter time than traditional brewer's media. Universal Beer Agar supports the growth of *Lactobacilli*, *Pediococci*, *Acetobacter*, *Lymomonas* species and wild yeast strains which may be found infecting the pitching yeast, the cooled wort or during fermentation or storage of the finished beer. Due to the presence of beer in these media, it is selective for growth of microorganisms that have adapted themselves to the existent conditions in the brewery. The presence of hop constituents and alcohol inhibits growth of many airborne microorganisms not adapted to this environment.⁽²⁾

Principles of the Procedure

Uniiversal Beer Agar contains peptonized milk contains lactose as an energy source. Yeast extract is a source of trace elements, vitamins and amino acids. Tomato juice is a source of carbon, protein and nutrients. Dextrose provides additional carbon and energy. Dipotassium and monopotassium phosphates provide buffering capability. Magnesium sulphate, ferrous sulphate and manganese sulphate are sources of ions that simulate metabolism. Sodium chloride maintains the osmotic equilibrium.

Formula / Liter

Ingredients	Gms / Liter
Peptonized milk	15.00
Yeast extract	6.10
Dextrose	16.10
Tomato juice	12.20
Dipotassium phosphate	0.31
Monopotassium phosphate	0.31
Magnesium sulphate	0.12
Sodium chloride	0.006
Ferrous sulphate	0.006
Manganese sulphate	0.006
Agar	12.00
Final pH: 6.3 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

Precautions

1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.





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Directions

1. Suspend 62.16 grams in 750 ml of distilled water.
2. Heat to boiling, to dissolve the medium completely.
3. Add 250 ml beer, without degassing, to the hot medium and mix gently.
4. Dispense as desired.
5. Autoclave at 121°C, 15 psi pressure, for 10 minutes / validated cycle.
6. If required, add 1 mcg/ml of Cycloheximide to sterile medium prior to dispensing.

Quality Control Specifications

Dehydrated Appearance	Cream to yellow homogeneous free flowing powder
Prepared Medium	Medium amber coloured clear to slightly opalescent gel forms in Petri plates
Reaction of 6.22% Solution	pH : 6.3 ± 0.2 at 25°C
Gel Strength	Firm, comparable with 1.2% Agar gel.

Expected Cultural Response: Cultural characteristics observed after an incubation at 35-37°C for 40-48 hours with added cycloheximide.

Sr. No.	Organisms	Results to be achieved		
		Inoculum (CFU)	Growth	Recovery
1.	<i>Acinetobacter calcoaceticus ATCC 23055</i>	50 - 100	good-luxuriant	≥50%
2.	<i>Lactobacillus acidophilus ATCC 4356</i>	50 - 100	good-luxuriant	≥50%
3.	<i>Lactobacillus fermentum ATCC 9338</i>	50 - 100	good-luxuriant	≥50%
4.	<i>Proteus vulgaris ATCC 13315</i>	50 - 100	fair-good	30-40%
5.	<i>Pediococcus acidilacti ATCC 8081</i>	50 - 100	good-luxuriant	≥50%
6.	<i>Lactobacillus johnsonii ATCC 11506</i>	50 - 100	good-luxuriant	≥50%

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure

The presence of spoilage microorganisms in pitching yeast may be detected from diluted samples by direct surface plating or by pour plate techniques. Incubate the plates aerobically and anaerobically. Refer to appropriate references for specific procedures.

Results

Refer to appropriate references and procedures for interpretation of results.

Storage

Store the sealed bottle containing the dehydrated medium at 10 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.





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Expiration

Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitations of the Procedure

1. For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
2. Consult appropriate texts for detailed information and recommended procedures.

Packaging

Product Name : Uniiversal Beer Agar (UB Agar)

Product Code : DM282

Available Pack sizes : 100gm

References

1. Kozulis J.A. and Page H.E., 1968, Proc. Am. Soc. Brew. Chem., 52:58.
2. MacFaddin J., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore.

Further Information

For further information please contact your local MICROMASTER Representative.



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