

Beer Universal Agar



Medium used for the cultivation and enumeration of microorganisms in the brewing industry.

• CONTENTS (Liter)

Peptonized Milk	15.0 g
Yeast Extract	6.1 g
Tomato Juice Powder	12.2 g
Glucose	16.1 g
Dipotassium Phosphate	0.31 g
Monopotassium Phosphate	0.31 g
Magnesium Sulfate	0.12 g
Sodium Chloride	0.006 g
Ferrous Sulfate	0.006 g
Manganese Sulfate	0.006 g
Agar	12.0 g
Final pH = 6.3 ± 0.2 at 25°C	

• PROCEDURE

Suspend 62.16 G of powder in 750 mL of distilled or deionized water. Heat to boiling until completely dissolved. Add 250 mL of commercial beer (not degassed). Mix well and if necessary, adjust the pH to 6.3 ± 0.2 . The pH value depends on the pH of the beer. Sterilize by autoclave at 121°C for 10 minutes. When sterilizing, use a container three to four times larger than the amount of the medium to prevent it from overflowing. Cool to $45 - 50^{\circ}\text{C}$ in water bath. For the selective medium, aseptically add 0.01 g/L of cycloheximide. Mix well. Pour into petri dishes.

• INTERPRETATION

Beer Universal Agar is a medium used for the cultivation and enumeration of microorganisms in the brewing industry. Peptonized milk provides lactose. Yeast extract provides the nitrogen and vitamin sources. Tomato juice powder is a source of protein, carbon, and another nutrients. Glucose is the fermentable carbohydrate. Phosphates are the buffering agents. Magnesium sulfate, ferrous sulfate and manganese sulfate are cofactor for metabolism reactions. Sodium chloride maintains the osmotic balance. Agar is the solidifying agent. Beer is added for the cultivation of beer microbial contaminants. Cycloheximide is a selective agent for the inhibition of yeasts.

• TECHNIC

Inoculate the specimen using a sterile loop to the medium. Incubate at $30 \pm 2^{\circ}\text{C}$ for up to 3 days. Refer appropriate references for recommended test procedure.

• QUALITY CONTROL FOR USE

Dehydrated medium

Appearance: free-flowing, homogeneous

Color: light beige

Prepared medium

Appearance : opaque with precipitates

Color: light amber

Incubation conditions: $30 \pm 2^{\circ}\text{C}$ for up to 3 days

Microorganism	ATCC	Inoculum CFU	Growth
<i>Lactobacillus fermentum</i>	9338	10^2 - 10^3	good
<i>Lactobacillus plantarum</i>	8014	10^2 - 10^3	good
<i>Saccharomyces cerevisiae</i>	76625	10^2 - 10^3	good

• STORE

The powder is very hygroscopic. Store the powder at room temperature, in a dry environment, in its original container tightly closed and use it before the expiry date on the label. Store prepared medium at $2 - 8^{\circ}\text{C}$.

• REFERENCES

1. Kozulis, J.A., and H.E. Page. (1968). Proc. Am. Soc. Brew. Chem. p. 52-58.
2. Murphy, D.T., and L.T. Saletan. (1970) . Tech. Q. Master Brew. Assoc. Am. 7: 182-187.

• PACKAGE

Cat. No : MB-B1126 Beer Universal Agar	500 G
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