Universal Beer HiVeg™ Agar (UB HiVeg™ Agar) MV415

Universal Beer HiVeg Agar (UB HiVeg Agar) is recommended for culturing microorganisms of significance in the brewery industry.

Composition ** :

Ingredients	Grams/Litre
HiVeg hydrolysate No. 3	15.0
Yeast extract	6.1
Dextrose	16.1
Tomato juice	12.2
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	12.0

Final pH (at 25°C) 6.3 ± 0.2
** Formula adjusted, standardized to suit performance parameters.

Directions :

Suspend 62.16 grams in 750 ml of distilled water. Heat to boiling to dissolve the medium completely. Add 250 ml beer, without degassing, to the hot medium and mix gently. Dispense as desired and sterilize by autoclaving at 15 lbs pressure (121°C) for 10 minutes. If required, add 5 mcg/ml of Amphotericin B to sterile medium prior to dispensing.

Principle and Interpretation :

Universal Beer HiVeg Agar is prepared by replacing Peptonized milk by HiVeg hydrolysate No.3 which is free from BSE/TSE risks. This medium is the modification of Universal Beer Agar which is designed according to the formula developed by Kozulis and Page (1) for culturing microorganisms which are significant in the brewing industry. Beer is added to the medium to stimulate the growth of beer spoilage organisms, thereby increasing the selectivity of the medium. Beer contains hop constituents and ethyl alcohol which eliminates many airborne contaminants (2) and thus help in minimizing false positive results.
HiVeg hydrolysate No.3, yeast extract, dextrose and salts provide all essential growth nutrients. Tomato juice gives acidic environment and is also a source of carbon, protein. Phosphate provides the buffering system to the medium. Magnesium sulfate, ferrous sulphate and manganese sulphate are the sources of ions that stimulate metabolism. The organisms which survive or grow in wort and beer during beer manufacturing can be recovered due to this particular composition of the medium.

Product Profile :		
Vegetable based (Code MV)◉		**Animal based** (Code M)
MV415 HiVeg hydrolysate No. 3		**M415** Peptonized milk
Recommended for	:	Culturing microorganisms of significance in the brewing industry.
Reconstitution	:	62.16 g/l
Quantity on preparation (100g)	:	1.60 L
pH (25°C)	:	6.3 ± 0.2
Supplement	:	Beer
Sterilization	:	121°C / 10 minutes.
Storage : Dry Medium-Below 30°C, Prepared Medium 2-8°C.		

Universal Beer HiVeg Agar supports growth of *Lactobacillus, Pediococcus, Acetobacter* and yeast strains which may be found contaminating the wort and beer.

Quality Control :

Appearance of powder
Light yellow coloured, may have slightly greenish tinge, homogeneous, free flowing powder.
Gelling
Firm, comparable with 1.2% Agar gel.
Colour and Clarity
Medium amber coloured, clear to slightly opalescent gel forms in petri plates.
Reaction
Reaction of 6.22% w/v aqueous solution is pH 6.3 ± 0.2 at 25°C
Cultural Response
Cultural characteristics observed after an incubation at 35°C for 40 - 48 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery
Acinetobacter calcoaceticus (23055)	10^2-10^3	good-luxuriant	>70%
Lactobacillus acidophilus (4356)	10^2-10^3	good-luxuriant	>70%
Lactobacillus fermentum (9338)	10^2-10^3	good-luxuriant	>70%
Proteus vulgaris (13315)	10^2-10^3	fair - good	>50%

References :

1. Kozulis J.A. and Page H.E., 1968, Proc. Am. Soc. Brew. Chem., 52:58.
2. MacFaddin 1985, Media for isolation-cultivation-identification-maintenance medical bacteria, Vol, I, Williams, & Wilkins, Baltimore, MD.

◉ Prepared from GMO free Vegetable proteins replacing Animal based peptones. Freedom from BSE/TSE worries.