WL Nutrient HiVeg™ Agar / Broth / WL Differential HiVeg™ Agar / Broth

MV115 /MV050/ MV1060/MV410

WL Nutrient and WL Differential HiVeg Agar/ Broth is recommended for selective isolation and enumeration of bacteria encountered in breweries and industrial fermentations.

Composition** :

Ingredients	MV115 Grams /Litre	MV050 Grams /Litre	MV1060 Grams /Litre	MV410 Grams /Litre
HiVeg hydrolysate	5.00	5.00	5.00	5.00
Yeast extract	4.00	4.00	4.00	4.00
Dextrose	50.00	50.00	50.00	50.00
Monopotassium phosphate	0.55	0.55	0.55	0.55
Potassium chloride	0.425	0.425	0.425	0.425
Calcium chloride	0.125	0.125	0.125	0.125
Magnesium sulphate	0.125	0.125	0.125	0.125
Ferric chloride	0.0025	0.0025	0.0025	0.0025
Manganese sulphate	0.0025	0.0025	0.0025	0.0025
Bromo cresol green	0.022	0.022	0.022	0.022
Actidione (Cycloheximide)	-	-	0.004	0.004
Agar	20.00	-	20.00	-

Final pH (at 25°C) 5.5 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Directions :

Suspend 80.25 grams of MV115 or 60.25 grams of MV050 or 80.26 grams of MV1060 or 60.26 grams of MV410 in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. If desired, to obtain a pH of 6.5, add 1% solution of sodium bicarbonate.

Warning : Cycloheximide is very toxic. Avoid skin contact or aerosol formation and inhalation.

Principle and Interpretation :

These media are prepared by using HiVeg hydrolysate instead of casein enzymic hydrolysate which makes the media free of BSE/TSE risks. WL (Wallerstein Laboratory) HiVeg Media are the modifications of WL (Wallerstein Laboratory) media which are formulated as described by Green and Gray for the examination of materials encountered in brewing and in industrial fermentations with mixed flora of yeasts and bacteria (1). At pH 5.5, viable baker's yeast can be enumerated and at pH 6.5 count of baker's yeast as well as distiller's yeast can be enumerated. Yeast extract, HiVeg hydrolysate, dextrose in the media provide growth requirements for microorganisms. Monopotassium phosphate buffers the media. Potassium chloride, calcium chloride and ferric chloride are essential ions that help to maintain the osmotic balance. Magnesium sulphate and manganese suplhate are the sources of divalent cations. Bromo cresol green is the pH indicator. Actidione (Cycloheximide) suppresses growth of yeast and moulds in brewing samples, permitting the detection and enumeration of bacteria that may be present in small numbers. While determining microbial counts using these media, temperature and time of incubation will vary depending on the nature of material under test. Temperatures of 25°C are employed for brewing materials while 30°C are employed for baker's yeast and alcohol fermentation mash analyses.

WL Differential HiVeg Agar plates are incubated aerobically for the growth of acetic acid bacteria, *Flavobacterium* species, *Proteus* spceies and thermophilic bacteria while for the growth of lactic acid bacteria and *Pediococcus* species they should be incubated anaerobically.

Product Profile :

Vegetable based (Code MV)◉	Animal based (Code M)
MV115/MV050/MV1060/MV410 HiVeg hydrolysate	**M115/M050/M1060/M410** Casein enzymic hydrolysate

Recommended for	:	Selective isolation and enumeration of bacteria encountered in breweries and industrial fermentations.
Reconstitution	:	(MV115) : 80.25 g/l
	:	(MV050) : 60.25 g/l
	:	(MV1060) : 80.26 g/l
	:	(MV410) : 60.26 g/l
Quantity on preparation (500g)	:	(MV115) : 6.23 L
	:	(MV050) : 8.29 L
	:	(MV1060) : 6.22 L
	:	(MV410) : 8.23 L
pH (25°C)	:	5.5 ± 0.2
Supplement	:	None
Sterilization	:	121°C / 15 minutes.

Storage : Dry Medium - Below 30°C, Prepared Medium 2 - 8°C.

Quality Control :

Appearance of Powder

Greenish yellow coloured, homogeneous, free flowing powder.

Gelling

Firm, comparable with 2.0% Agar gel of MV115 or MV1060.

Colour and Clarity

Bluish green coloured, very slightly opalescent gel forms in petri plates, clear solution in tubes.

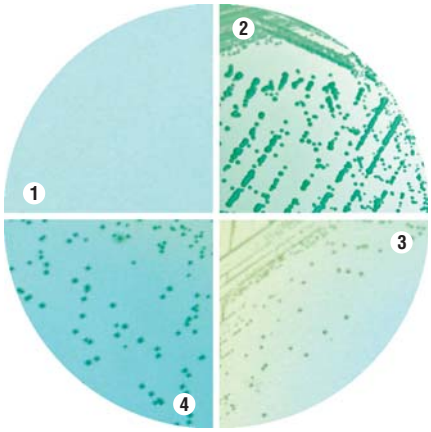
Reaction

Reaction of 8.02 % w/v of MV115 and MV1060 or 6.02% w/v of MV050 and MV410 aqueous solution is pH 5.5 ± 0.2 at 25°C.

Continued ...

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

WL Nutrient HiVeg™ Agar / Broth/ MV115 /MV050/
WL Differential HiVeg™ Agar / Broth MV1060/MV410



MV115 WL Nutrient HiVeg Agar

1. Control
2. *Saccharomyces cerevisiae*
3. *Escherichia coli*
4. *Proteus mirabilis*

Cultural Response

Cultural characteristics observed after incubation at 35°C for 48 hours (MV050 & MV115)

Organisms (ATCC)	Inoculum(CFU)	Growth
Escherichia coli (25922)	10^2-10^3	fair to good
Lactobacillus fermentum (9338)	10^2-10^3	fair to good
Proteus mirabilis (25933)	10^2-10^3	fair to good
Saccharomyces cerevisiae (9763)	10^2-10^3	good to luxuriant
Saccharomyces uvarum (9080)	10^2-10^3	good to luxuriant

Cultural Response

Cultural characteristics observed after incubation at 35°C for 48 hours (MV1060 or MV410).

Organisms (ATCC)	Inoculum (CFU)	Growth
Escherichia coli (25922)	10^2-10^3	luxuriant
Lactobacillus fermentum (9338)	10^2-10^3	luxuriant
Proteus mirabilis (25933)	10^2-10^3	luxuriant
Saccharomyces cerevisiae (9763)	10^2-10^3	inhibited
Saccharomyces uvarum (9080)	10^2-10^3	inhibited

References :

1. Green and Gray, 1950, Wallerstein Lab. Commun., 13:357.