

Tryptophan HiVeg™ Medium

MV1339

Tryptophan HiVeg Medium is used for detection of indole reaction production.

Composition ** :

Ingredients	Grams/Litre
HiVeg hydrolysate	10.00
Sodium chloride	5.00
DL-Tryptophan	1.00

Final pH (at 25°C) 7.5 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Directions :

Suspend 16 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Dispense into tubes and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle and Interpretation :

This medium is prepared by using HiVeg hydrolysate which is free of BSE/TSE risks. This medium is the modification of Tryptophan Medium which is a modification of original formula of APHA where the medium is devoid of Tryptophan (1). This medium is useful for the detection of indole production which is a key feature in the differentiation of coliforms. HiVeg hydrolysate provides carbonaceous and nitrogenous sources required for the growth of microorganisms. Tryptophan is an amino acid, which is broken by certain microorganisms with the help of enzymes. The various enzymes involved are collectively called as tryptophanase, a general term used to denote the complete system of enzymes that mediate the indole production by hydrolytic activity on tryptophan (2). The indole produced can be detected by either Kovac's or Ehrlich's reagent (3). Indole combines with the aldehyde present in the above reagent to give red colour in the alcohol layer. The alcohol layer extracts and concentrates the red colour complex.

Quality Control :**Appearance of powder**

Yellow coloured, may have slightly greenish tinge, homogeneous, free flowing powder

Colour and Clarity

Yellow coloured, clear solution without any precipitate

Reaction

Reaction of 1.6% w/v aqueous solution is pH 7.5 ± 0.2 at 25°C

Product Profile :

Vegetable based (Code MV)©	Animal based (Code M)
MV1339 HiVeg hydrolysate	M1339 Casein enzymic hydrolysate

Recommended for : Detection of indole reaction production.

Reconstitution : 16.0 g/l

Quantity on preparation (500g) : 31.25 L

pH (25°C) : 7.5 ± 0.2

Supplement : None

Sterilization : 121°C / 15 minutes.

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

Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 24 hours.

Organisms (ATCC)	Indole reaction
<i>Enterobacter aerogenes</i> (13048)	-
<i>Escherichia coli</i> 0157:H7	+
<i>Escherichia coli</i> (25922)	+

References :

- Greenberg A.E., Clesceri L.S. and Eaton A.D. (Eds.), 1992, Standard methods for the Examination of Water and Wastewater, 18th ed. APHA., Washington, D.C.
- MacFaddin, 1980, Biochemical Tests for Identification of Medical Bacteria, 2nd ed. Williams and Wilkins Baltimore.
- Finigold and Baron, 1986, Bailey and Scott's Diagnostic Microbiology, 7th ed., The C.V. Mosby Co., St. Louis.

**MV1339 Tryptophan HiVeg Medium**

- Control
- Enterobacter aerogenes*
- Escherichia coli*