Tryptone Agar, HiVeg™ MV961

Tryptone Agar, HiVeg is used for rapid detection and enumeration of *Escherichia coli* in foods using a modified direct plating method.

Composition ** :

Ingredients	Grams/Litre
HiVeg hydrolysate	20.0
Synthetic detergent No. I	1.5
Agar	15.0

Final pH (at 25°C) 7.2 ± 0.2

** Formula adjusted, standardized to suit performance parameters.Directions :

Suspend 36.5 grams 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.

Principle and Interpretation :

This medium is prepared by using HiVeg hydrolysate and synthetic detergent which are of vegetable origin, hence the medium is totally free from BSE/TSE risks.

Tryptone Agar, HiVeg is the modification of Tryptone Bile Agar which was formulated by Anderson and Baird-Parker (1). The International Commission on the Microbiological Specifications for Foods (CMSF) (2) compared the Most Probable Number (MPN) and the Anderson-Baird-Parker Direct Plating Method (DPM) using Tryptone Agar and observed that DPM was superior to MPN for enumeration of *Escherichia coli* from raw meats. Tryptone Agar HiVeg like the conventional medium can be used for direct Plating method. Superiority of DPM method was noticed by the organization on the basis of less variability, better recovery from frozen samples, greater rapidity and the smaller quantity of medium required. It was reported that DPM enumerates both anaerogenic and late lactose fermenting strains of *Escherichia coli* which could be missed by the MPN method (about 10%) (3). Holbrook et al (4) modified the DPM for detection and enumeration of sublethally damaged cells of *Escherichia coli* in frozen, dried, heat processed or acid foods and found that resuscitation step reduces the high concentration of sugar present in the inoculum to a level which does not interfere with the production of indole, as the synthesis of tryptophanase is inhibited by high sugar concentrations (5).

The indole positive organisms other than *Escherichia coli* are inhibited by synthetic detergent and higher incubation temperature of 44°C.

Quality Control :

Appearance of powder

Light yellow coloured, may have slightly greenish tinge, homogeneous, free flowing powder.

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity

Yellow coloured, clear to slightly opalescent gel forms in petri plates.

Reaction

Reaction of 3.65% w/v aqueous solution is pH 7.2 ± 0.2 at 25°C.

Product Profile :

Vegetable based (Code MV)◉	Animal based (Code M)
MV961 HiVeg hydrolysate Synthetic detergent No. I	**M961** Casein enzymic hydrolysate Bile salts mixture

Recommended for	:	Rapid detection and enumeration of *Escherichia coli* in foods using a modified direct plating medium.
Reconstitution	:	36.5 g/l
Quantity on preparation (500g)	:	13.69 L
pH (25°C)	:	7.2 ± 0.2
Supplement	:	None
Sterilization	:	121°C / 15 minutes.

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

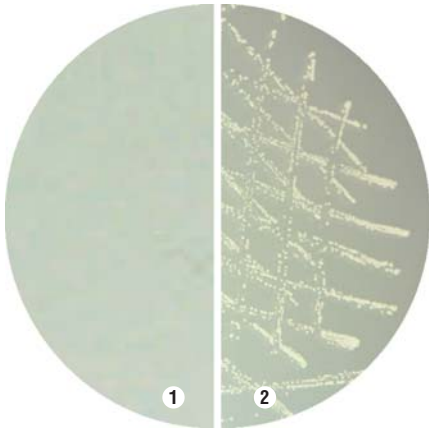
Cultural Response

Cultural characteristics observed after an incubation at 44°C for 24 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery
Bacillus subtilis (6633)	10^2-10^3	inhibited	0%
Enterococcus faecalis (29212)	10^2-10^3	inhibited	0%
Escherichia coli (25922)	10^2-10^3	luxuriant	>50%
Staphylococcus aureus (25923)	10^2-10^3	inhibited	0%

References :

1. Anderson J.M. and Baird-Parker A.C., 1975, J. Appl. Bact., 39:111.
2. International Commission on Microbiological Specifications for Food, 1979, Can. J. Microbiol., 25:1321.
3. Ewing W.H., 1972, US Dept. of Health, Education and Welfare, CRC, Atlanta.
4. Holbrook R, Anderson J.M. and Baird - Parker A.C., 1980, Food Technol. in Aust., 32:78.
5. Clarke P.H. and Cowen S.T., 1952, J. Gen. Microbiol., 6:187.



MV961 Tryptone Agar, HiVeg
(Against dark background)

1. Control
2. *Escherichia coli*

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