

Tributyryn HiVeg™ Agar Base w/o Tributyrin**MV157**

Tributyryn HiVeg Agar Base with Tributyrin supplementation is used for detection of lipolytic microorganisms.

Composition ** :

Ingredients	Grams/Litre
HiVeg peptone	5.0
Yeast extract	3.0
Agar	15.0

Final pH (at 25°C) 7.5 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Directions :

Suspend 23 grams in 990 ml distilled water. Add 10 ml of Tributyrin. Mix and heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Shake the flask and pour plate so as to maintain uniform turbidity.

Principle and Interpretation :

Tributyryn HiVeg Agar Base is specially developed from HiVeg peptone to avoid BSE/ TSE risks associated with animal origin Peptic digest of animal tissue. This medium is the modification of Tributyrin Agar Base, which was originally formulated by Anderson (1) for the detection and enumeration of lipolytic microorganisms such as *Staphylococci* (2), *Clostridia* (3), marine *Flavobacteria* and *Pseudomonas* (4) and moulds in foodstuffs and other materials.

HiVeg peptone and yeast extract provide necessary nutrients for growth of the microorganisms. Tributyrin added in the medium on hydrolysis by esterase enzyme produces butyric acid which is water soluble therefore clearance is seen around the colony which produce the enzyme. Lipases hydrolysing low molecular weight or short chain triglycerides are referred as esterases. This is an invitro method followed to isolate lipolytic organisms and is used for screening lipase/ esterase producers. The medium should be properly mixed so that tributyrin substrate is distributed uniformly in the prepared plate.

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

Light yellow coloured, opalescent gel forms with oil droplets in petri plates.

Reaction

Reaction of 2.3% w/v aqueous solution containing 1% v/v Tributyrin is pH 7.5 ± 0.2 at 25°C

Product Profile :

Vegetable based (Code MV)©	Animal based (Code M)
MV157 HiVeg peptone	M157 Peptic digest of animal tissue

Recommended for : Detection of lipolytic microorganisms.

Reconstitution : 23.0 g/l

Quantity on preparation (500g) : 21.73 L
(100g) : 4.34 L

pH (25°C) : 7.5 ± 0.2

Supplement : Tributyrin (FD081)

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 24-48 hours, in an appropriate atmosphere after addition of Tributyrin (FD081).

Organisms (ATCC)	Inoculum (CFU)	Growth	Lipase activity
* <i>Clostridium perfringens</i> (12924)	10 ² -10 ³	luxuriant	-
* <i>Clostridium sporogenes</i> (11437)	10 ² -10 ³	luxuriant	+
<i>Bacillus subtilis</i> (6633)	10 ² -10 ³	luxuriant	+
<i>Escherichia coli</i> (25922)	10 ² -10 ³	luxuriant	-
<i>Staphylococcus aureus</i> (25923)	10 ² -10 ³	luxuriant	+

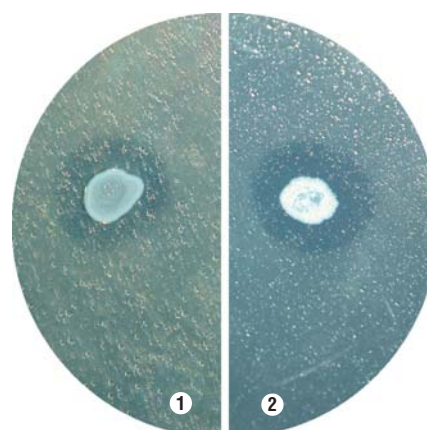
Key : + = clear zone around colony

- = absence of zone

* = when incubated anaerobically

References :

- Anderson J.A., 1939, Ber. IIIrd Int. Mikrobiol. Kongress, 3:726
- Innes A. G., 1956, J. Appl. Bact., 19:39.
- Willis A. T., 1960, J. Path. Bact., 80(2):379.
- Hayes P.R., 1963, J. Gen., Microbiol., 30:1.



MV157 Tributyrin HiVeg Agar Base w/o Tributyrin (with added Tributyrin)
(Against dark background)

- Staphylococcus aureus*
- Bacillus subtilis*