Tinsdale HiVeg™ Agar Base MV314

Tinsdale HiVeg Agar Base with supplement is used for selective isolation and differentiation of *Corynebacterium diphtheriae.*

Composition ** :

Ingredients	Grams/Litre
HiVeg peptone	20.0
Sodium chloride	5.0
L-Cystine	0.24
Sodium thiosulphate	0.43
Agar	15.0

Final pH (at 25°C) 7.4 ± 0.2
** Formula adjusted, standardized to suit performance parameters.

Directions :

Suspend 40.7 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. Cool to 50°C and aseptically add Diptheria Virulence Supplement (FD073, Part A and Part B).

Principle and Interpretation :

Tinsdale HiVeg Agar Base is prepared by using HiVeg peptone which is free from BSE/TSE risks associated with animal based Peptic digest of animal tissue. Tinsdale HiVeg Agar Base is the modification of Tinsdale Agar Base which was originally formulated by Tinsdale (1) and further modified by Billings (2) for selective isolation and differentiation of *Corynebacterium diphtheriae,* the causative agent of Diphtheria. HiVeg peptone provides nitrogenous compounds. L-Cysteine and sodium thiosulphate form H_2S indicator system. Potassium tellurite from the supplement inhibits all gram-negative bacteria and most of the upper respiratory tract normal flora.
Corynebacterium diphtheriae forms grayish black colonies surrounded by a dark brown halo while diphtheroids commonly found in the upper respiratory tract do not form such colonies. Dark brown halo around the colony is due to H_2S production from cysteine combining with the tellurite salt. Moore and Parsons (4) found Tinsdale medium as an ideal medium for the routine cultivation and isolation of *Corynebacterium diphtheriae*. They also confirmed the stability of halo formation on clear medium and its specificity for *Corynebacterium diphtheriae* and *Corynebacterium ulcerans*. *Corynebacterium ulcerans* found in nasopharynx form colonies same as *Corynebacterium diphtheriae* and require further biochemical testing (2).
Do not incubate the plates in 5 - 10% CO_2 (carbon dioxide) as it retards the development of characteristic halos (5).

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.

Product Profile :		
Vegetable based (Code MV)◉		**Animal based** (Code M)
MV314 HiVeg peptone		**M314** Peptic digest of animal tissue
Recommended for	:	Selective isolation and differentiation of *Corynebacterium diphtheriae.*
Reconstitution	:	40.7 g/l
Quantity on preparation (500g)	:	12.28 L
pH (25°C)	:	7.4 ± 0.2
Supplement	:	Diphtheria Virulence Supplement (FD073) Part A + B
Sterilization	:	121°C / 15 minutes
Storage : Dry Medium - Below 30°C, Prepared Medium 2 - 8°C.		

Colour and Clarity
Light amber coloured, slightly opalescent gel forms in petri plates.

Reaction
Reaction of 4.07% w/v aqueous solution is pH 7.4 ± 0.2 at 25°C.

Cultural Response
Cultural characteristics observed after an incubation at 35-37°C for 40-48 hours with added Diptheria Virulence Supplement (FD073, Part A and Part B).

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Colony Characteristics
Corynebacterium diphtheriae type *gravis*	10^2-10^3	good-luxuriant	>50%	brown-black*
Corynebacterium diphtheriae type *intermedius*	10^2-10^3	good-luxuriant	>50%	brown-black*
Corynebacterium diphtheriae type *mitis*	10^2-10^3	good-luxuriant	>50%	brown-black*
Klebsiella pneumoniae (13883)	10^2-10^3	inhibited	0%	-
Streptococcus pyogenes (19615)	10^2-10^3	good	>30%	black pin point

Key : * = with halo

References :

1. Tinsdale G.F., 1955, J. Path. and Bacteriol., 59:461.
2. Iseberg (ed) 1992, Clinical Microbiology procedures handbook, vol 1. American Society for Microbiology, Washington, D.C
3. MacFaddin J., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.
4. Moore M.S. and Parsons E.I.M, 1958, J. Infect. Dis., 102:88.
5. Murray PR, Baron, Pfaller, and Yolken (Eds.), 2003, In Manual of Clinical Microbiology, 8th ed., ASM, Washington, D.C.

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