Coagulase Mannitol HiVeg™ Broth Base MV277

Coagulase Mannitol HiVeg Broth Base with plasma is recommended for the simultaneous detection of mannitol fermentation and coagulase production during differentiation of *Staphylococci*.

Composition ** :

Ingredients	Grams/Litre
HiVeg infusion	10.0
HiVeg peptone	10.0
D-Mannitol	10.0
Sodium chloride	5.0
Phenol red	0.025

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

Directions :

Suspend 35 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Dispense as desired and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Just before use aseptically add 12 - 15% sterile, pretested normal plasma. Mix well.

Principle and Interpretation :

Coagulase Mannitol HiVeg Broth is prepared by completely replacing animal based peptones with vegetable peptones. This medium is used for the isolation and differentiation of *Staphylococcus aureus* from clinical specimens from other species on the basis of coagulase production and mannitol fermentation. Chapman for the first time introduced medium for selective isolation and differentiation of *Staphylococci* (1). Tellurite-glycine media were designed by Zebovitz et al (2) and Marwin (3) for selectively isolating coagulase positive *Staphylococcal* species. Present medium is modified and based on Esber and Faulconer formulation (4).
Coagulase Mannitol HiVeg Broth Base is the modification of Coagulase Mannitol Broth Base using vegetable peptones and serving the same purpose. Mutant or old cultures of *Staphylococcus aureus* may be weak coagulase producers. They should be freshly subcultured and rechecked. *Escherichia coli* ferments mannitol and may be weakly coagulase positive. Coagulase production is dependent on the presence of a fermentable sugar like mannitol in this case. It is also dependent on the presence of a protein factor in the HiVeg infusion and blood plasma (4). When mannitol is fermented, the pH of the medium drops which results in change in colour of the medium from red-orange to yellow due to phenol red. Due to growth of coagulase positive organisms, plasma coagulates which results in an opaque broth. *Staphylococcus epidermidis* is coagulase negative and mannitol nonfermenting species, therefore it does not change the colour of the medium.

Product Profile :

Vegetable based (Code MV)◉	Animal based (Code M)
MV277 HiVeg peptone HiVeg infusion	**M277** Peptic digest of animal tissue Heart muscle

Recommended for	:	Simultaneous detection of mannitol fermentation and coagulase production during differentiation of *Staphylococci*.
Reconstitution	:	35.0 g/l
Quantity on preparation (500g)	:	14.28 L
(100g)	:	2.85 L
pH (25°C)	:	7.4 ± 0.2
Supplement	:	12-15% sterile, pretested normal plasma
Sterilization	:	121°C / 15 minutes.

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

Coagulase negative species may ferment mannitol and produce a yellow colour but opacity will not be formed.

Quality Control :

Appearance of powder
Light pink coloured, homogeneous, free flowing powder.
Colour and Clarity
Red coloured, clear to slightly opalescent solution.
Reaction
Reaction of 3.5% 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 18 - 48 hours with added 12-15% sterile pretested normal plasma.

Organisms (ATCC)	Inoculum (CFU)	Growth	Mannitol fermenation	Coagulase activity
Staphylococcus aureus (25923)	10^2-10^3	luxuriant	+ (yellow)	+(opaque zone)
Staphylococcus epidermidis (12228)	10^2-10^3	luxuriant	- (red)	-

References :

1. Chapman,1946, J. Bact., 51:409.
2. Zebovitz, Evans and Nivens, 1955, J. Bact., 70:686.
3. Marwin, 1958, Am. J. Clin. Pathol., 30:470.
4. Esber and Faulconer, 1959, Am. J. Clin. Pathol., 32:192.

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