Coagulase Mannitol HiVeg™ Agar Base MV272

Coagulase Mannitol HiVeg Agar Base with plasma is recommended for isolation and differentiation of *Staphylococci* from clinical specimens or for classifying pure isolates of *Staphylococci*.

Composition ** :

Ingredients	Grams/Litre
HiVeg special infusion	5.0
HiVeg hydrolysate	10.5
Papaic digest of soyabean meal	3.5
Sodium chloride	3.5
Mannitol	10.0
Bromo cresol purple	0.02
Agar	14.5

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

Directions :

Suspend 47 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 12-15 lbs pressure (118-121°C) for 15 minutes. Cool to 45 - 50°C. Add 7 - 15% v/v sterile, pretested, rabbit plasma to the basal medium. Mix well and pour into sterile plates.

Principle and Interpretation :

Coagulase Mannitol HiVeg Agar Base is prepared by using vegetable peptones in place of animal based peptones which makes the medium free of BSE/TSE risks. This medium is used for the isolation of *Staphylococcus aureus* from clinical specimens and for differentiation of *Staphylococcus aureus* 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 based on Esber and Faulconer formulation (4). Coagulase Mannitol HiVeg Agar Base is the modification of this medium and is prepared by using vegetable peptones. 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 special infusion and blood plasma (4). When mannitol is fermented, the pH of the medium surrounding the colonies of coagulase positive colonies drops. This drop in pH is indicated by the change in colour of the bromo cresol purple which turns yellow and exhibit yellow zones around the colonies.
An opaque area of coagulated plasma forms around the colonies of coagulase positive organisms. *Staphylococcus epidermidis* is coagulase negative and mannitol nonfermenting and therefore, does not change the colour of the medium. Coagulase negative species may ferment mannitol and produce a yellow zone around the colonies but an opaque zone will not be formed.

Product Profile :

Vegetable based (Code MV)◉	Animal based (Code M)
MV272 HiVeg hydrolysate HiVeg special infusion	**M272** Casein enzymic hydrolysate Brain heart infusion

Recommended for	:	Isolation and differentiation of *Staphylococci* from clinical specimens or for classifying pure isolates of *Staphylococci*.
Reconstitution	:	47.0 g/l
Quantity on preparation (500g)	:	10.63 L
(100g)	:	2.12 L
pH (25°C)	:	7.4 ± 0.2
Supplement	:	Rabbit plasma 7-15%
Sterilization	:	118-121°C / 15 minutes.

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

Quality Control :

Appearance of powder
Light grey coloured, homogeneous, free flowing powder.
Gelling
Firm, comparable with 1.45% Agar gel
Colour and Clarity
Purple coloured, slightly opalescent gel forms in petri plates.
Reaction
Reaction of 4.7% 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 7 - 15% v/v sterile pretested, rabbit plasma.

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Mannitol fermentation	Coagulase production
Staphylococcus aureus (25923)	10^2-10^3	luxuriant	>70%	+ (yellow)	+(opaque zone)
Staphylococcus epidermidis (12228)	10^2-10^3	luxuriant	>70%	- (purple)	-

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.

HIMEDIA®