Double Sugar HiVeg™ Agar MV057

Double Sugar HiVeg Agar is used for the differentiation of gram-negative enteric bacilli on the basis of their ability to ferment dextrose and lactose with or without gas formation.

Composition ** :

Ingredients	Grams/Litre
HiVeg peptone	2.5
HiVeg hydrolysate	7.5
HiVeg extract	3.0
Lactose	10.0
Dextrose	1.0
Sodium chloride	5.0
Phenol red	0.025
Agar	15.0

Final pH (at 25°C) 7.3 ± 0.2
** Formula adjusted, standardized to suit performance parameters.

Directions :

Suspend 44.02 grams in 1000 ml distilled water. Mix thoroughly. Heat to boiling to dissolve the medium completely. Dispense in tubes or as desired and sterilize by autoclaving at 12-15 lbs pressure (118-121°C) for 15 minutes. Allow the tubes to solidify in slanting position to form generous butt.

Principle and Interpretation :

Double Sugar HiVeg Agar is prepared by using vegetable peptone which makes the medium free of BSE/TSE risks associated with animal based peptone. This medium is the modification of the medium which is based upon the original formula of Russell (1) except the litmus is now substituted by phenol red and used for differentiating gram-negative enteric bacilli especially the colon-typhoid-salmonellae-dysentery groups based on the fermentation of dextrose and lactose. After the incubation, the acid production in aerobic condition (on the slant) and under anaerobic condition (in the butt) can be detected by the change in colour of the indicator. Phenol red is the pH indicator in the medium. Gaseous fermentation is indicated by the splitting of the agar or by the bubble formation in the butt. Organism like *Salmonella* serotype Typhi capable of fermenting dextrose but not lactose, will show an initial acid slant in short incubation period. As the dextrose is consumed the reaction under aerobic condition reverts and becomes alkaline. Under anaerobic condition in the butt, the same organisms fail to revert the reaction and remain acidic.

Quality Control :

Appearance of powder

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

Product Profile :

Vegetable based (Code MV)◉	Animal based (Code M)
MV057 HiVeg hydrolysate HiVeg peptone HiVeg extract	**M057** Casein enzymic hydrolysate Peptic digest of animal tissue Beef extract

Recommended for	:	Differentiation of gram-negative enteric bacilli on the basis of their ability to ferment dextrose and lactose with or without gas formation.
Reconstitution	:	44.0 g/l
Quantity on preparation (500g)	:	11.36 L
pH (25°C)	:	7.3 ± 0.2
Supplement	:	None
Sterilization	:	118 - 121°C / 15 minutes.

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

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity

Red coloured, clear to slightly opalescent gel forms in tubes as slants.

Reaction

Reaction of 4.4% w/v aqueous solution is pH 7.3 ± 0.2 at 25°C.

Cultural Response

Cultural characteristics observed after an incubation at 35 - 37°C for 18 - 40 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth	Slant	Gas	Butt
Escherichia coli (25922)	10^2-10^3	luxuriant	A	+	A
Proteus vulgaris (13315)	10^2-10^3	luxuriant	K	+	A
Pseudomonas aeruginosa (27853)	10^2-10^3	luxuriant	K	-	K
Salmonella serotype Typhimurium (14028)	10^2-10^3	luxuriant	K	+	A
Shigella dysenteriae (13313)	10^2-10^3	luxuriant	K	-	A

Key : A = acidic reaction, yellowing of the medium
K = alkaline reaction, red colour of the medium

References :

1. Russell, 1911, J. Med. Res., 25:217.

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

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