

Bacillus Cereus HiVeg™ Agar Base**MV833**

Bacillus Cereus HiVeg Agar Base with added supplements is used as a selective medium for the isolation and enumeration of *Bacillus cereus*.

Composition ** :

Ingredients	Grams/Litre
HiVeg peptone	1.0
Mannitol	10.0
Sodium chloride	2.0
Magnesium sulphate	0.1
Disodium phosphate	2.5
Monopotassium phosphate	0.25
Sodium pyruvate	10.0
Bromo thymol blue	0.12
Agar	15.0

Final pH (at 25°C) 7.2 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Directions :

Suspend 20.5 grams in 475 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 rehydrated contents of 1 vial of Polymyxin B Selective Supplement (FD003) and 25 ml of sterile Egg Yolk Emulsion (FD045). Mix well and pour into sterile petri plates.

Principle and Interpretation :

Bacillus Cereus HiVeg Agar is developed by using HiVeg peptone, which is free of BSE/TSE risks. This medium is the modification of Bacillus Cereus Agar Base developed by Holbrook and Anderson (1), which is a highly specific, selective medium for the isolation and enumeration of *Bacillus cereus* from foods. It supports the growth of even a small number of *Bacillus cereus* cells and spores in the presence of large number of other food contaminants. The typical colonies of *Bacillus cereus* are cremated, about 5 mm in diameter and have a distinctive turquoise to peacock blue colour surrounded by a good egg yolk precipitate of the same colour.

Addition of Polymyxin - B Sulphate (2, 3) at a final concentration of 100 units per ml of medium is sufficient to make the medium selective for the isolation of *Bacillus cereus*. If moulds are suspected in the inoculum, 40 mcg per ml of filter-sterilized, Cycloheximide may be incorporated to suppress the mould contamination. Some strains of *Bacillus cereus* have very weak egg yolk reaction. Moreover, on this medium *Bacillus cereus* is indistinguishable from *Bacillus thuringiensis*. *Bacillus cereus* causes food poisoning due to the consumption of contaminated rice (4, 5, 6), eye infections and a wide range of other clinical conditions like abscess formation, meningitis, septicaemia and wound infection. *Bacillus cereus* is a known cause of disease mastitis, especially in ewes and heifers among the veterinarians. HiVeg peptone and sodium pyruvate improve egg yolk precipitation and enhance sporulation. Bromo thymol blue act as pH indicator to detect mannitol fermentation.

Product Profile :

Vegetable based (Code MV)©		Animal based (Code M)
MV833	HiVeg peptone	M833 Peptic digest of animal tissue
Recommended for	: Selective medium for the isolation and enumeration of <i>Bacillus cereus</i> .	
Reconstitution	: 41.0 g/l	
Quantity on preparation (500g):	12.19 L	
(100g):	2.43 L	
pH (25°C)	: 7.2 ± 0.2	
Supplement	: Polymyxin B Selective Supplement (FD003)	
	Egg Yolk Emulsion (FD045)	
Sterilization	: 121°C / 15 minutes.	
Storage	: Dry Medium - Below 30°C, Prepared Medium 2 - 8°C.	

Quality Control :**Appearance of powder**

Greenish yellow coloured, homogeneous, free flowing powder.

Gelling

Firm, comparable with 1.5 % Agar gel.

Colour and Clarity

Basal medium yields green coloured clear to slightly opalescent gel. With addition of 5% egg yolk emulsion yellowish green coloured opaque gel forms in petri plates.

Reaction

Reaction of 4.1% w/v aqueous solution of basal medium is pH 7.2 ± 0.2 at 25°C.

Cultural Response

Cultural characteristics observed after an incubation at 35 - 37°C for 24 hours with added Polymyxin B Selective Supplement (FD003) and Egg Yolk Emulsion (FD045).

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Colour of colony	Egg Yolk Reaction
<i>Bacillus cereus</i> (10876)	10 ² -10 ³	good-luxuriant	>50%	blue	precipitation
<i>Escherichia coli</i> (25922)	10 ² -10 ³	inhibited	0%	-	-
<i>Proteus vulgaris</i> (13315)	10 ² -10 ³	good-luxuriant	>50%	green	-
<i>Serratia marcescens</i> (8100)	10 ² -10 ³	good-luxuriant	>50%	red	clearing
<i>Staphylococcus aureus</i> (25923)	10 ² -10 ³	good-luxuriant	>50%	yellow	clearing

References :

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- Wohlgemuth K., Kirkbride, C.A., Bicknell, E. J. and Ellis, R.P., 1972, Am. Vet. Med. Ass., 161:1691.