Thermoacidurans HiVeg™ Agar MV125

Thermoacidurans HiVeg Agar is recommended for isolation and cultivation of *Bacillus coagulans* (*Bacillus thermoacidurans*) from food products.

Composition ** :

Ingredients	Grams/Litre
HiVeg peptone No. 3	5.0
Yeast extract	5.0
Dextrose	5.0
Dipotassium phosphate	4.0
Agar	20.0
Manganese sulphate	0.2

Final pH (at 25°C) 5.0 ± 0.2
** Formula adjusted, standardized to suit performance parameters.

Directions :

Suspend 39.2 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 pour into sterile petriplates.

Principle and Interpretation :

Thermoacidurans HiVeg Agar is specially developed by using HiVeg peptone No.3 to avoid the BSE/TSE risks associated with animal based Proteose peptone. Thermoacidurans HiVeg Agar is the modification of Thermoacidurans Agar, which is designed, based on the formula described by Stern, Hegarty and Williams (1) and used for the cultivation of *Bacillus coagulans* (*Bacillus thermoacidurans*) from foods as recommended by APHA (2). *Bacillus thermoacidurans* is a common causative organism of flat sour spoilage in tomato juice. Stern et al (1) have suggested plating of 1 ml of tomato juice per 20 ml agar medium for the isolation and detection of *Bacillus thermoacidurans*. However excess quantities of tomato juice showed an inhibitory action on the growth of *Bacillus coagulans* (*Bacillus thermoacidurans*). These organisms can survive at low pH and sustain or tolerate high temperatures allowing their survival in canned and processed foods. Thermoacidurans Agar can also be used to isolate mesophilic spore forming anaerobes like *Clostridium* species from foods. They can also tolerate high heat and grow in the absence of oxygen.
This media contains HiVeg peptone No.3 and yeast extract which serve as nitrogenous source, it also supplies vitamin B complex and other essential growth nutrients. Dextrose and yeast extract also serve as carbon and energy source. The low pH of medium supports growth of *B. acidurans*. Manganese sulphate stimulates spore formation.

Product Profile :

Vegetable based (Code MV)◉	Animal based (Code M)
MV125 HiVeg peptone No. 3	**M125** Proteose peptone

Recommended for	:	Isolation and cultivation of (*Bacillus thermoacidurans*) *Bacillus coagulans* from foods.
Reconstitution	:	39.2 g/l
Quantity on preparation (500g)	:	12.75 L
pH (25°C)	:	5.0 ± 0.2
Supplement	:	None
Sterilization	:	121°C / 15 minutes.

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

Quality Control :

Appearance of powder
Light yellow coloured, may have slightly greenish tinge, homogeneous, free flwoing powder.
Gelling
Firm, comparable with 2.0% Agar gel.
Colour and Clarity
Yellow coloured, clear to slightly opalescent gel forms in petri plates.
Reaction
Reaction of 3.92% w/v aqueous solution is pH 5.0 ± 0.2 at 25°C.
Cultural Response
Cultural characteristics observed after an incubation at 50-55°C for 18 - 48 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Sporulation
B. coagulans (B. thermoacidurans) (8038)	10^2-10^3	luxuriant	>70%	+
**Clostridium pasteurianum* (6013)	10^2-10^3	luxuriant	>70%	+

Key : * = when incubated anaerobically at 35-37°C.

References :

1. Stern, Hegarty and Williams, 1942, Food Research, 7:186.
2. Downes FP and Ito K (Eds.), 2001, Compendium of Methods For The Microbiological Examination of Foods, 4th ed., APHA, Washington, D.C.

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

HIMEDIA®