Lysine Iron Cystine HiVeg™ Broth Base MV845

Lysine Iron Cystine HiVeg Broth Base is used for rapid presumptive detection of *Salmonellae* in foods, food ingredients and feed materials.

Composition ** :

Ingredients	Grams/Litre
HiVeg hydrolysate	5.0
Yeast extract	3.0
L-Lysine hydrochloride	10.0
Mannitol	5.0
Dextrose	1.0
Salicin	1.0
L-Cystine	0.1
Ferric ammonium citrate	0.5
Sodium thiosulphate	0.1
Neutral red	0.025

Final pH (at 25°C) 6.2 ± 0.2
** Formula adjusted, standardized to suit performance parameters.

Directions :

Suspend 25.7 grams in 1000 ml distilled water. Heat, if necessary to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to room temperature and aseptically add one vial of reconstituted Novobiocin Selective Supplement (FD101). Mix well before dispensing in sterile tubes.

Principle and Interpretation :

Lysine Iron Cystine HiVeg Broth Base is prepared by using HiVeg hydrolysate in place of Casein enzymic hydrolysate which makes the medium free of BSE/TSE risks.
Lysine Iron Cystine HiVeg Broth Base is a modification of the formula of Hoben, Aston and Peterson (1). They described the usefulness of this medium for detecting *Salmonellae* in food samples in three days, thus reducing the holding time for foods and food ingredients.
HiVeg hydrolysate and L-Cystine provide carbonaceous and nitrogenous compounds. Yeast extract supplies Vitamin B complex. Dextrose, mannitol and salicin are the fermentable carbohydrates. Ferric ammonium citrate and sodium thiosulphate are the indicators of hydrogen sulphide formation. Lysine is the substrate which is either decarboxylated or deaminated.
25 g of the test sample is added to Lactose HiVeg Broth (MV026) and blended and incubated for 24 hours at 35 ± 2°C and 1 ml of this culture is added to 10 ml of Tetrathionate HiVeg Broth (MV032) and incubated at 35 ± 2°C for 24 hours. From this secondary culture, 1 ml is added to 10 ml Lysine Iron Cystine HiVeg Broth Base with Novobiocin and incubated at 35 ± 2°C for 24 hours. To eliminate the possibility of non H_2S (hydrogen sulphide) producing *Salmonellae*, incubate for an additional 16 - 24 hours. 0.1 ml. bromo thymol blue solution (0.3%) in 0.1 N NaOH and 50% ethanol is added to each tube. If the colour changes from yellow to dark green or blue, it indicates an alkaline reaction and the presence of *Salmonella* species.

Product Profile :

Vegetable based (Code MV)◉	Animal based (Code M)
MV845 HiVeg hydrolysate	**M845** Casein enzymic hydrolysate

Recommended for	:	Rapid presumptive detection of *Salmonellae* in foods, food ingredients and feed materials.
Reconstitution	:	25.7 g/l
Quantity on preparation (500g)	:	19.45 L
(100g)	:	3.89 L
pH (25°C)	:	6.2 ± 0.2
Supplement	:	Novobiocin Selective Supplement (FD101).
Sterilization	:	121°C / 15 minutes.

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

Quality Control :

Appearance of powder
Light pink coloured, homogeneous, free flowing powder.
Colour and Clarity
Reddish coloured, clear solution with slight particles.
Reaction
Reaction of 2.57% w/v aqueous solution is pH 6.2 ± 0.2 at 25°C.
Cultural Response
Cultural characteristics observed after an incubation at 35-37°C for 24 - 48 hours with addition of Novobiocin Selective Supplement (FD101).

Organisms (ATCC)	Growth	Colour of medium	Colour of medium*	H_2S
Escherichia coli (25922)	inhibited	red	red-blue	-
Salmonella serotype Typhi (19430)	luxuriant	yellow	dark green-blue	+
Salmonella serotype Enteritidis (13076)	luxuriant	yellow	dark green-blue	+
Shigella flexneri (12022)	inhibited	red	red-blue	-

Key : * = after addition of Bromo Thymol Blue.
+ = blackening of the media

References :

1. Hoben, Ashton and Peterson, 1973, Applied Microbiol., 25:123.

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