FLUID SELENITE CYSTINE MEDIUM (ISO 6579: 1993) TM 294

INTENDED USE

An enrichment medium for isolation of *Salmonella* species from food, dairy and clinical samples.

COMPOSITION

Ingredients	Gms/Ltr
Part - I	
Sodium phosphate	10.000
Casein enzymatic hydrolysate	5.000
Lactose	4.000
L-Cystine	0.010
Part – II	
Sodium selenite	4.000

PRODUCT SUMMARY AND EXPLAINATION

Fluid Selenite Cystine Medium is a modification of Leifsons formula with added cystine by North and Bartram. The formulation corresponds to that of recommended by the AOAC, for the detection of *Salmonellae* in foodstuff particularly egg products. It is included by APHA, USP. Recently ISO Committee also recommends this medium for the detection of *Salmonellae*. Selenite Cystine Broth is useful for detecting *Salmonella* in the non-acute stages of illness when organisms occur in low numbers in test samples and for epidemiological studies to enhance the detection of low numbers of organisms from asymptomatic or convalescent patients.

PRINCIPLE

Medium contains Casein enzymatic hydrolysate as a source of nitrogen & carbon. Lactose is a fermentable carbohydrate source. L-Cystine lowers the toxicity of Sodium selenite and adds additional organic sulphur. Sodium selenite inhibits the gram positive bacteria and most enteric gram negative bacteria, except *Salmonella*. As Selenite is reduced by *Salmonella* species the pH shifts towards alkali, the acid produced during lactose fermentation helps in maintaining a neutral pH.

INSTRUCTIONS FOR USE

1. Dissolve 4.0 grams of Part B in 1000 ml purified/distilled water.
2. Add 19.01 grams of Part A.

3. Mix well.
4. Warm to dissolve the medium completely.
5. Distribute in sterile test tubes.
6. Sterilize in a boiling water bath or free flowing steam for 10 minutes.

Note: Do not autoclave. Excessive heating is detrimental. Discard the prepared medium if large amount of selenite is reduced (indicated by red precipitate at the bottom of tube/bottle).

QUALITY CONTROL SPECIFICATIONS

Appearance Dehydrated powder:
Part A: Off-white to light yellow
Part B: White to cream homogeneous free flowing powder
Appearance of the prepared medium: Light yellow colour, clear to slightly opalescent solution

pH (at 25°C): 7.0 ± 0.2

CULTURE RESPONSE

Cultural characteristics observed after incubation at 35 ± 2°C for 18- 24 hours.

Organism	ATCC	Inoculum (CFU/ml)	Growth	Recovery
Escherichia coli	25922	10^3	Fair to none (partial to complete inhibition)	Pink with bile precipitation
Salmonella typhi	19430	10^3	Good	Colourless
Salmonella typhimurium	14028	10^3	Good	Colourless

STORAGE & STABILITY

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers below 25°C and protect from direct Sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

REFERENCES

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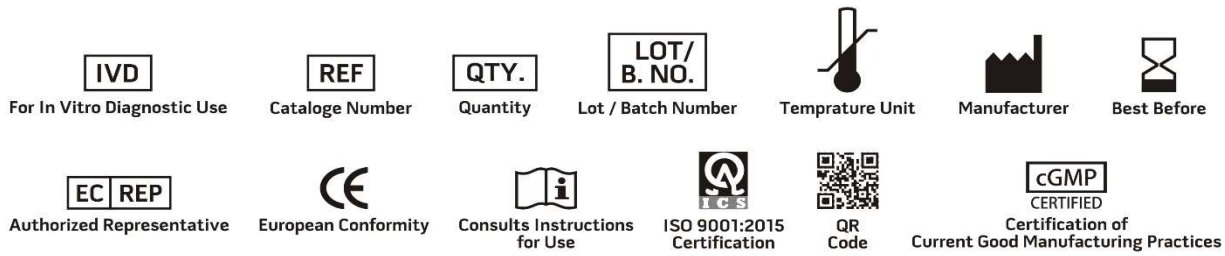
4. Downes F P and Ito K(Eds.), 2001, Compendium of Methods For The Microbiological Examination of Foods, 4th ed., APHA, Washington, D.C.
5. Wehr H M and Frank J H., 2004, Standard Methods for the Examination of Dairy Products, 17th ed., APHA Inc., Washington, D.C.
6. United States Pharmacopoeia, 2009 U.S. Pharmacopoeial Convention, Inc., Rockville, MD.
7. International Organization for Standardization (ISO), 1993, Draft ISO/DIS 6579.
8. Murray PR, Baren EJ, Jorgensen JH, Pfaller MA, Yolken RH (editors) 2003, Manual of clinical Microbiology, 8th ed., ASM, Washington, D.C.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.