TM 854 - SELENITE CYSTINE BROTH BASE (W/O BISELENITE)

INTENDED USE

For selective enrichment of *Salmonella & possibly Shigella sonnei* from faeces, urine, water & foodstuffs.

PRODUCT SUMMARY AND EXPLANATION

Klett first demonstrated the selective inhibitory effects of selenite and Guth used it to isolate *Salmonella* Typhi. Leifson fully investigated selenite and formulated the media. Selenite Cystine Medium is a modification of Leifsons formula with added cystine. Modification of original composition and similar media are recommended by AOAC, APHA, USP etc. Enrichment media are routinely employed for detection of pathogens in faecal specimens as the pathogens are present in a very small number in the intestinal flora. Selenite Cystine Broth is useful for detecting Salmonella in the nonacute stages of illness when organisms occur in the faeces in low numbers and for epidemiological studies to enhance the detection of low number of organisms from asymptomatic or convalescent patients.

COMPOSITION

Ingredients	Gms / Ltr
Tryptone	5.000
Lactose	4.000
Disodium hydrogen phosphate	10.000
L-Cystine	0.010

PRINCIPLE

Tryptone provides nitrogenous and carbonaceous compounds, long chain amino acids, vitamins and other essential nutrients. Lactose maintains the pH of medium. Selenite is reduced by bacterial growth and alkali is produced. An increase in pH lessens the toxicity of the selenite and results in overgrowth of other bacteria. The acid produced by bacteria due to lactose fermentation serves to maintain a neutral pH. Sodium phosphate maintains a stable pH and also lessens the toxicity of selenite. L-cystine improves recovery of *Salmonella*.
Enriched broth is subcultured on differential plating media such as Bismuth Sulphite Agar, Brilliant Green Agar, XLD Agar etc. Do not incubate the broth longer than 24 hours as inhibitory effect of selenite decreases after 6 - 12 hours of incubation.

INSTRUCTION FOR USE

- Dissolve 19.01 grams in 1000 ml purified / distilled water.
- Warm to dissolve the medium completely.
- Distribute in sterile test tubes. Sterilize in a boiling water bath or free flowing steam for 10 minutes, 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 of Powder	: Cream to light yellow homogeneous free flowing powder.
Appearance of prepared medium	: Cream to yellow coloured clear solution without any precipitate.
pH (at 25°C)	: 7.0 ± 0.2

INTERPRETATION

Cultural characteristics observed with added sodium hydrogen selenite when subcultured on MacConkey Agar after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Color of the colony	Incubation Temperature	Incubation Period
Escherichia coli	25922	50-100	None to poor(no increase in numbers)	Pink with bile precipitate	35-37°C	18-24 Hours
Salmonella Choleraesuis	12011	50-100	Good-luxuriant	Colourless	35-37°C	18-24 Hours
Salmonella Typhi	6539	50-100	Good-luxuriant	Colourless	35-37°C	18-24 Hours
Salmonella Typhimurium	14028	50-100	Good-luxuriant	Colourless	35-37°C	18-24 Hours

PACKAGING:
In pack size of 500 gm bottles.

STORAGE
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°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.
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL
After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES
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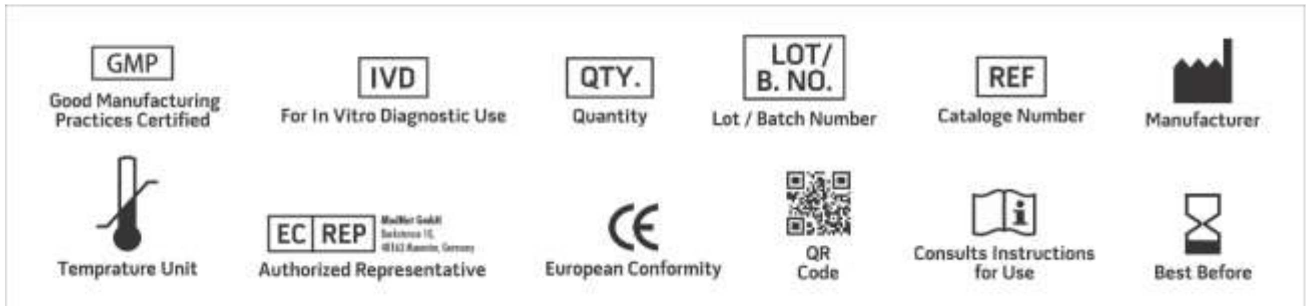

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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