TM 721 – DULCITOL SELENITE BROTH (SELENITE BROTH WITH DULCITOL) (DOUBLE PACK)

INTENDED USE

For selective enrichment of *Salmonella* species.

PRODUCT SUMMARY AND EXPLANATION

Klett first demonstrated the selective inhibitory effects of selenite and Guth used this property to isolate *Salmonella* Typhi. Leifson investigated the effects of selenite and formulated a media containing selenite. Dulcitol Selenite Broth is a modification of Leifson's Medium with Dulcitol replacing lactose. Selenium toxicity to certain microorganisms is not fully understood but it is suggested that it reacts with sulphur and sulphydral groups of critical cell components.

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. Dulcitol Selenite Broth is useful for detecting *Salmonella* from faeces, dairy products and other specimens.

COMPOSITION

Ingredients	Gms / Ltr
Part I	
Peptic digest of animal tissue	5.000
Dulcitol	4.000
Sodium phosphate	10.000
Part II	
Sodium hydrogen selenite	4.000

PRINCIPLE

The medium consists of Peptic digest of animal tissue which provides nitrogenous substances. Sodium biselenite inhibits many species of gram-positive and gram-negative bacteria including Enterococci. Sodium phosphate maintains a stable pH and also lessens the toxicity of selenite. Dulcitol is typically fermented by *Salmonella Choleraesuis* subspecies Salamae, subspecies Gallinarum, subspecies Paratyphi A, subspecies Pullorum, subspecies Choleraesuis. Do not incubate the broth longer than 24 hours as the inhibitory effect of selenite decreases after 6-12 hours of incubation.

INSTRUCTION FOR USE

- Dissolve 4 grams of Part II in 1000 ml distilled water. Add 19 grams of Part II. Mix well.
- Heat if necessary 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 OR OVERHEAT. Excessive heating is detrimental.
  Caution: Sodium hydrogen selenite (Sodium bi-selenite) is very toxic, corrosive agent and causes teratogenicity. Handle with great care. Upon contact with skin, wash immediately with a lot of water.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Part I :Cream to yellow homogeneous free flowing powder Part II : White to cream homogeneous free flowing powder.

Appearance of prepared medium : Light yellow coloured, clear solution without any precipitate.

pH (at 25°C) : 7.0 ± 0.2

INTERPRETATION

Cultural characteristics observed when subcultured on MacConkey Agar after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Colour of colony	Incubation Temperature	Incubation Period
Escherichia coli	25922	50-100	None to poor	Pink with bile precipitate	35-37°C	18-24 Hours
Salmonella Enteritidis	13076	50-100	Luxuriant	Colourless	35-37°C	18-24 Hours
Salmonella Typhi	6539	50-100	Good	Colourless	35-37°C	18-24 Hours
Salmonella Typhimurium	14028	50-100	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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6. Weiss K. F., Ayers J. C., and Kraft A. A., 1965, J. Bacteriol., 90 : 857-862.
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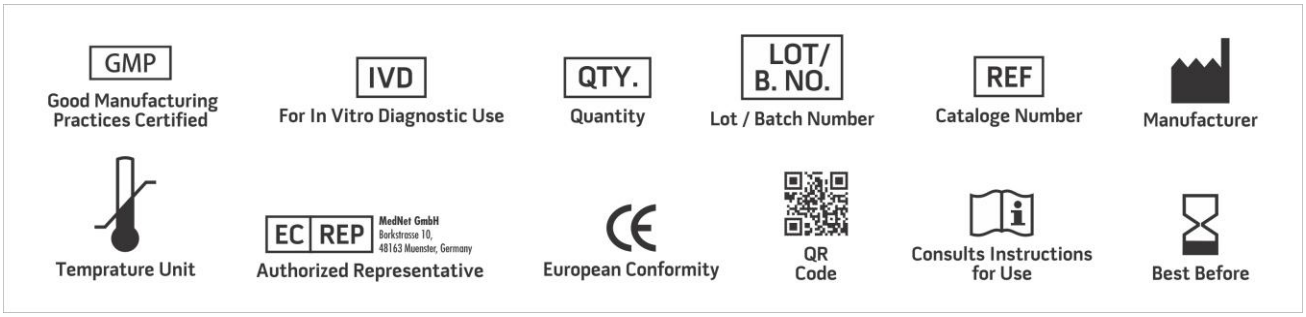

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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