TM 2314 - SS SELECTIVE AGAR, IMPROVED, ((DOUBLE PACK)

INTENDED USE

Used for the selective isolation and differentiation of *Salmonella* and *Shigella* species.

PRODUCT SUMMARY AND EXPLANATION

SS Selective Agar, Improved is recommended as selective medium for the isolation of *Salmonella* as well a *Shigella* species from clinical specimens. It provides significantly greater sensitivity and specificity in the detection of both the organisms. The other selective medias like HE, SS and XLD largely fail to suppress the growth of Salmonella interfering organism like Citrobacter and Proteus which resemble the presence of *Salmonella*.

Bacteria that decarboxylate lysine to cadaverine can be recognized by the appearance of a red colouration around the colonies due to an increase in pH. Sodium thiosulphate is reduced by certain species of enteric organisms to sulphite and H_2S gas and this reductive enzyme process is attributed by thiosulphate reductase. Production of H_2S gas is detected as an insoluble black precipitate of ferrous sulphide, formed upon reaction of H_2S with ferric ions or ferric citrate, indicated in the centre of the colonies. Part B addition to the medium helps in improving the selectivity of the medium. It selectively inhibits the growth of gram positive organisms. The growth of Proteus species is also reduced.

COMPOSITION

Ingredients	Gms / Ltr
Part I	
Proprietary	81.93
Part II	
Proprietary	4.600

PRINCIPLE

The sugars xylose, lactose and sucrose provide sources of fermentable carbohydrates, xylose is mainly incorporated into the medium since it is not fermented by *Shigella* but practically by all enterics. This helps in the differentiation of *Shigella* species. Degradation of xylose, lactose and sucrose to acid causes phenol red indicator to change its colour to yellow. Addition of Cellobiose controls the growth of false positive Salmonella suspect. Lysine is included to differentiate the Salmonella group from the non-pathogens. Salmonella rapidly ferment xylose and exhaust the supply. Subsequently lysine is decarboxylated by the enzyme lysine decarboxylase to form amines with reversion to an alkaline pH that mimics the *Shigella* reaction.

INSTRUCTION FOR USE

- Dissolve 81.93 grams in 1000 ml distilled water. Add 4.6 ml of Part II.
- Heat to boiling with frequent agitation to dissolve the medium completely, do not autoclave or overheat. Overheating may destroy the selectivity of the medium.
- Cool to 45-50°C. Mix and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Light yellow to pink homogeneous free flowing powder.

Appearance of prepared medium : Reddish orange coloured clear to slightly opalescent gel forms in Petri plates.

pH (at 25°C) : 7.4±0.2

INTERPRETATION

Cultural characteristics observed after incubation. Recovery rate is considered as 100%for bacteria growth on Soyabean Casein Digest Agar.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Color of the colony	Incubation Temperature	Incubation Period
Salmonella Typhimurium	14028	50-100	Luxuriant	>=70%	Red with black centers	35-37°C	18-48 Hours
Escherichia coli	25922	50-100	Fair-good	20-40%	Yellow	35-37°C	18-48 Hours
Salmonella Enteritidis	13076	50-100	Good-luxuriant	>=50%	Red with black centers	35-37°C	18-48 Hours
Salmonella Typhi	6539	50-100	Good-luxuriant	>=50%	Red with black centers	35-37°C	18-48 Hours
Shigella dysenteriae	13313	50-100	Good-luxuriant	>=50%	Red	35-37°C	18-48 Hours
Shigella flexneri	12002	50-100	Fair-good	20-40 %	Red	35-37°C	18-48 Hours
Shigella sonnei	25931	50-100	Fair-good	20-40 %	Red	35-37°C	18-48 Hours
Klebsiella aerogenes	13048	50-100	Fair	20-30 %	Yellow	35-37°C	18-48 Hours
Staphylococcus aureus subsp. aureus	25923	$>=10^3$	Inhibited	0%	-	35-37°C	18-48 Hours
Enterococcus faecalis	29212	$>=10^3$	Inhibited	0%	-	35-37°C	18-48 Hours

Proteus mirabilis	25933	50-100	None-poor	0-10%	Red	35-37°C	18-48 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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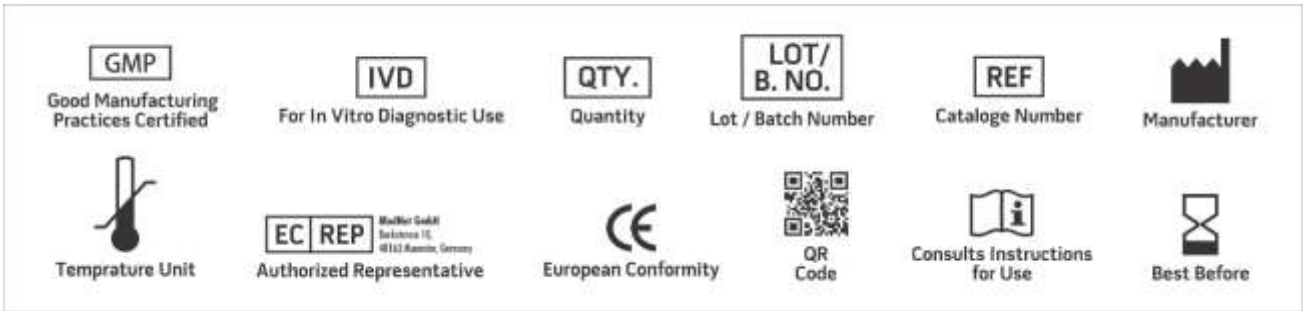

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.
***For Lab Use Only**
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