TM 588- SS AGAR, MODIFIED

INTENDED USE

For selective isolation & differentiation of *Salmonella* and *Shigella* species from clinical materials and foodstuff.

PRODUCT SUMMARY AND EXPLANATION

Salmonella and Shigella are gram-negative, facultatively anaerobic, non-sporulating rods in the family Enterobacteriaceae. They are widely distributed in animals, infecting mainly the stomach and the intestinal tissues. SS Agar is recommended as differential and selective medium for the isolation of Salmonella and Shigella species from pathological specimens and suspected foodstuffs and for microbial limit test. SS Agar is a moderately selective medium in which gram- positive bacteria are inhibited by bile salts, brilliant green and sodium citrate.

The high selectivity of Salmonella Shigella Agar allows the use of large inocula directly from faeces, rectal swabs or other materials suspected of containing pathogenic enteric bacilli. On fermentation of lactose by few lactose-fermenting normal intestinal flora, acid is produced which is indicated by change of colour from yellow to red by the pH indicator neutral red. Thus these organisms grow as red-pigmented colonies. Lactose non-fermenting organisms grow as translucent colourless colonies with or without black centers. Salmonella species exhibit colourless colonies with black centers resulting from H2S production. Shigella species form colourless colonies, which do not produce H2S. While using samples suspected of being exposed to treatments that might have damaged the viability of microorganisms due to processing of food materials or samples from patients under antibiotic treatment etc., previous enrichment in Selenite cystine Broth Base or Tetrathionate Broth Base is necessary. Inoculate SS Agar plates with the enriched culture. After incubation the suspicious colonies should be subcultured on differential media to be identified biochemically or serologically.

COMPOSITION

Ingredients	Gms / Ltr
Peptone	5.000
Beef extract	5.000
Lactose	10.000
Bile salts mixture	5.500
Sodium citrate	10.000
Sodium thiosulphate	8.500
Ferric citrate	1.000
Brilliant green	0.00033
Neutral red	0.025
Agar	12.000

PRINCIPLE

Bile salts, Brilliant green and Sodium citrate inhibits the gram positive bacteria. Peptone and Beef extract provide essential growth nutrients. Lactose is the fermentable carbohydrate. Brilliant green, bile salts and thiosulphate selectively inhibit gram-positive and coliform organisms. Sodium thiosulphate is reduced by certain species of enteric organisms to sulphite and H_2S gas. This reductive enzymatic process is attributed to 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 by black centered colonies.

INSTRUCTION FOR USE

- Dissolve 57.02 grams in 1000 ml distilled water.
- 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 about 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) : 7.2±0.2

INTERPRETATION

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Color of the colony	Incubation Temperature	Incubation Period
Escherichia coli	25922	50-100	Fair	20-30%	Pink with bile Precipitate	35-37°C	18-24 Hours
Klebsiella aerogenes	13048	50-100	Fair	20-30%	Cream pink	35-37°C	18-24 Hours
Enterococcus faecalis	29212	50-100	None-poor	0-10%	Colourless	35-37°C	18-24 Hours
Proteus mirabilis	*25933*	50-100	Fair-good	20-40 %	Colourless, may have black center	35-37°C	18-24 Hours
Salmonella Choleraesuis	*12011*	50-100	Good-luxuriant	>=70%	Colourless with Black center	35-37°C	18-24 Hours
Salmonella Typhi	*6539*	50-100	Good-luxuriant	>=70%	Colourless with Black center	35-37°C	18-24 Hours
Salmonella Typhimurium	*14028*	50-100	Good-luxuriant	>=70%	Colourless with Black center	35-37°C	18-24 Hours
Salmonella Enteritidis	13076	50-100	Good-luxuriant	>=70%	Colourless with Black center	35-37°C	18-24 Hours

Shigella flexneri	12022	50-100	Good	40-50%	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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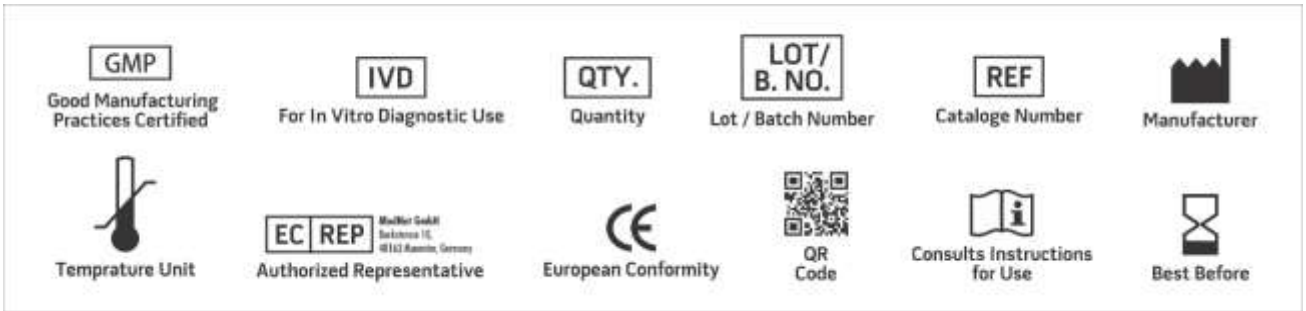

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.
***For Lab Use Only**
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