Brilliant Green Agar w/ Sulfadiazine

Selective medium for the isolation of *Salmonella* spp.

TYPICAL FORMULA	(g/l)
Yeast Extract	3.0
Enzymatic Digest of Casein	5.0
Enzymatic Digest of Animal Tissue	5.0
Sodium Chloride	5.0
Lactose	10.0
Sucrose	10.0
Brilliant Green	0.0125
Phenol Red	0.08
Sulfadiazine	0.08
Agar	20.0
Final pH 6.9 ± 0.2 at 25°C	

DESCRIPTION

Brilliant Green Agar w/ Sulfadiazine is a selective and differential medium used for the isolation of *Salmonella* spp, other than *S.* Typhi and *S.* Paratyphi, from foods.

PRINCIPLE

Yeast extract is a source of vitamins, particularly of group B. Enzymatic digest of casein and enzymatic digest of animal tissue provide amino acids, nitrogen, carbon, minerals, vitamins and other nutrients which support the growth of microorganism. Sodium chloride maintains the osmotic balance of the medium. Lactose and sucrose are the fermentable carbohydrates. Brilliant green is a dye that inhibit the majority of Gram-positive and Gram-negative bacteria including *Salmonella* Typhi and *Shigella* spp. Phenol red is the pH indicator. Sulfadiazine is a sulfonamide antibiotic effective against both Gram-positive and Gram-negative bacteria. Agar is the solidifying agent.

PREPARATION

Suspend 58.0 g of powder in 1 liter of deionized or distilled water. Bring to boil and shake until completely dissolved. Sterilize at 121°C for 15 minutes. Cool up to 45-50°C. Pour in Petri dishes.

TECHNIQUE

An enrichment step on Tetrathionate Broth (ref. 24451) or Selenite Cystine Broth (ref. 24510) can be necessary prior to inoculate the agar medium.

It is recommended Brilliant Green Agar w/ Sulfadiazine be used in parallel with other less inhibitory media such as XLD Agar (ref. 10056) or Hektoen Enteric Agar (ref. 10043).

Inoculate the plates by streak/spread method. Incubate aerobically at 35 ± 2°C for 18-24 hours.

INTERPRETATION OF RESULTS

Salmonella spp produces red to pinkish-white opaque colonies surrounded by a red zone. while other staphylococci cultivate with turquoise-blue colonies. Uninhibited sucrose or lactose fermenting organisms(e.g. *E. coli*, *Enterobacter* and *Klebsiella* species) appear as yellow-green colonies with a green zone. Slow lactose fermenter such as species of *Proteus* or *Pseudomonas* may grow as red colonies. Biochemical and/or serological tests should be performed on isolated colonies for confirmation.

STORAGE AND TRANSPORT CONDITIONS

The powder is very hygroscopic, store the powder at 10-30°C, in a dry environment, in its original container tightly closed and use it before the expiry date on the label or until signs of deterioration or contamination are evident. Store prepared plates at 2-8°C away from light.

WARNING AND PRECAUTIONS

The product does not contain hazardous substances in concentrations exceeding the limits set by current legislation and therefore is not classified as dangerous. It is nevertheless recommended to consult the safety data sheet for its correct use. The product is designed for professional use only and must be used by properly trained operators.

DISPOSAL OF WASTE

Disposal of waste must be carried out according to the national and local regulations in force.

REFERENCES

- Eaton, A. D., L. S. Clesceri, and A. E. Greenberg (eds.). 1995. Standard methods for the examination of water and wastewater, 19th ed. American Public Health Association, Washington, D.C.
- Osborn WW, Stokes JL (1962) The determination of salmonellae in foods. Ottawa: Food and Drug Laboratories.
- Kristensen M, V. Lester and A. Jurgens (1925) On the use of trypsinized casein, bromthymol blue, bromcresol purple, phenol red and brilliant green for bacteriological nutrient media. Br J Exp Pathol. 6:291.

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PRODUCT SPECIFICATIONS

NAME
Brilliant Green Agar w/ Sulfadiazine

PRESENTATION
Dehydrated medium

STORAGE
10-30°C

PACKAGING

Ref.	Content	Packaging
610373	500 g	500 g of powder in plastic bottle
620373	100 g	100 g of powder in plastic bottle

pH OF THE MEDIUM
6.9 ± 0.2

USE
Brilliant Green Agar w/ Sulfadiazine is a selective and differential medium used for the isolation of *Salmonella* spp from foods

TECHNIQUE
Refer to technical sheet of the product

APPEARANCE OF THE MEDIUM
Powder medium
Appearance: free-flowing, homogeneous
Colour: pink
Ready-to-use medium
Appearance: slightly opalescent
Colour: orange-brown

SHELFLIFE
4 years

QUALITY CONTROL
1. Control of general characteristics, label and print
2. Microbiological control
   Inoculum for productivity: 50-100 CFU
   Inoculum for selectivity: 10^4-10^6 CFU
   Incubation Conditions: 18-24 h at 35 ± 2°C, in aerobiosis

Microorganism		Growth	Colony color
Salmonella Typhimurium	ATCC® 14028	Good	Pinkish-white
Salmonella Enteritidis	ATCC® 13076	Good	Pinkish-white
Escherichia coli	ATCC® 25922	Poor	Yellow-green
Shigella flexneri	ATCC® 12022	Inhibited	---
Staphylococcus aureus	ATCC® 25923	Inhibited	---

TABLE OF SYMBOLS

LOT Batch code	Do not reuse	Manufacturer	Use by	Fragile, handle with care
REF Catalogue number	Temperature limitation	Contains sufficient for <n> tests	Caution, consult instructions for use	

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