



Brilliant Green Agar with Phosphates

M971S

Brilliant Green Agar with Phosphates is used for the selective isolation of bacteria responsible for food poisoning. It is recommended by BIS committee under the specifications IS:5887(Part III)-1999.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	10.000
Meat extract	5.000
Yeast extract	3.000
Lactose	10.000
Sucrose	10.000
Disodium phosphate	1.000
Monosodium phosphate	0.600
Phenol red	0.090
Brilliant green	0.0047
Agar	12.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 52 grams in 1000 ml distilled water. Heat with occasional agitation and bring just to the boil to dissolve the medium completely. DO NOT AUTOCLAVE. For maximum recovery, Sulpha Supplement (FD068) may be aseptically added. Cool to 50°C. Mix well and pour into sterile Petri plates.

Principle And Interpretation

This medium is formulated as per the recommendation of Rijks Institute Voorde Volksgezondheid (National Institute for Public Health), Utrecht (1,2). It is widely accepted and used in ISO Standards (3,4,5) because of its improved performance with respect to recovery of smaller numbers of *Salmonella* species, inhibition of *Escherichia coli*, *Proteus* species and *Pseudomonas* species (6). It is also recommended by BIS as a solid selective medium for the detection of *Salmonella* from food (7). As per BIS, the growth from Fluid Selenite Cystine Broth (M025I) and Modified Rappaport Vassiliadis Medium (M1137I) is subcultured on Brilliant Green Agar with phosphates (M971S).

Typical colonies from the plates are used for further confirmation. The medium can be further supplemented with sulphacetamide (1 g/l) and sodium mandelate (0.25 g/l) to inhibit contaminating microorganisms when the sample is suspected to be containing large number of competing organisms along with *Salmonella* species (8).

Quality Control

Appearance

Light yellow to pink coloured homogeneous free flowing powder

Gelling

Firm, comparable with 1.2% Agar gel.

Colour and Clarity of prepared medium

Greenish brown coloured clear to slightly opalescent gel forms in Petri plates.

Reaction

Reaction of 5.2% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH

6.80-7.20

Cultural Response

Cultural characteristics observed after an incubation at 35 - 37°C for 18 - 24 hours .

Cultural Response

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony
Cultural Response				
<i>Escherichia coli</i> ATCC 25922	$\geq 10^3$	inhibited	0%	
<i>Proteus vulgaris</i> ATCC 13315	50-100	none-poor	$\leq 10\%$	red
<i>Pseudomonas aeruginosa</i> ATCC 10145	50-100	none-poor	$\leq 10\%$	red
<i>Salmonella Enteritidis</i> ATCC 13076	50-100	luxuriant	$\geq 50\%$	bright red
<i>Salmonella Typhimurium</i> ATCC 14028	50-100	luxuriant	$\geq 50\%$	bright red

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Reference

1. Edel W. and Kampelmacher E.H., 1969, Bull. W.H.O., 41:297.
2. Edel W. and Kampelmacher E.H., 1969, Bull. W.H.O., 39:487.
3. Anon, 1975, International Organization for Standardization, Meat and Meat products. Ref. Method, ISO:3565.
4. Anon, 1981, International Organization for Standardization, Microbiology Ref. Methods, ISO: 6579.
5. Anon, 1985, International Organization for Standardization, Milk and Milk Products, Ref. Method, ISO : 6785.
6. Read R. B. and Reyes A.L., 1968, Appl. Microbiol., 16:746.
7. Bureau of Indian Standards IS : 5887 (Part 3) 1999.
8. Watson U.C. and Walker A.P., 1978, J. Appl. Bact., 45:195.

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