



Brilliant Green Agar with Phosphates

M971I

Brilliant Green Agar with Phosphates is recommended for detection and enumeration of Salmonellae. The composition and performance criteria of this medium are as per the specifications laid down in ISO 1985 Draft ISO/DIS 6785.

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	0.005
Agar	15.000
Final pH (at 25°C)	6.9±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 54.69 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

Salmonella species cause many types of infections, from mild self-limiting gastroenteritis to life threatening typhoid fever. The most common form of *Salmonella* disease is self-limiting gastroenteritis with fever lasting less than 2 days and diarrhoea lasting less than 7 days.(8) This medium contains peptic digest of animal tissue, meat extract and yeast extract as sources of carbon, nitrogen, vitamins, amino acids and essential nutrients. The 2 sugars, namely lactose and sucrose serve as energy sources. Fermentation of lactose and / or sucrose in the medium results in the formation of acidic pH which is detected by phenol red indicator. 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). 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 (7).

Quality Control

Appearance

Light yellow to pink coloured homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

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

Reaction

Reaction of 5.46 % w/v aqueous solution at 25°C. pH : 6.9±0.2

pH

6.70-7.10

Cultural Response

Please refer disclaimer Overleaf.

M971I: Cultural characteristics observed after an incubation at 35 - 37°C for 18 - 24 hours .

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony
<i>Escherichia coli</i> ATCC 25922	$\geq 10^3$	inhibited	0%	-
<i>Proteus vulgaris</i> ATCC 13315	50-100	none-poor	10%	red
<i>Pseudomonas aeruginosa</i> ATCC 10145	50-100	none-poor	10%	red
<i>Salmonella Enteritidis</i> ATCC 13076	50-100	luxuriant	50%	bright red
<i>Salmonella Typhimurium</i> ATCC 14028	50-100	luxuriant	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. Watson U.C. and Walker A.P., 1978, J. Appl. Bact., 45:195.
8. Murray P.R., Baron J. H., Pfaller M.A., Jorgensen J.H. and Tenover F.C., (Ed.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.

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