Technical Information

Brilliant Green Agar with Phosphates

Product Code: DM 1971I

Application: - Brilliant Green Agar with Phosphates is recommended for detection and enumeration of Salmonellae.

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

Principle & Interpretation

Salmonella species is responsible for many types of infections, ranging from mild self-limiting gastroenteritis to life threatening typhoid fever. The most common type of *Salmonella* disease is self-limiting gastroenteritis with fever lasting less than 2 days and diarrhoea 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 two sugars, namely lactose and sucrose act 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 according to the recommendation of Rijks Institute Voorde Volksgezondheld (National Institute for Public Health), Utrecht [1, 2]. It is widely accepted and used in ISO Standards also [3, 4, 5] because of its improved performance with respect to recovery of even smaller numbers of *Salmonella* species, and inhibition of *Escherichia coli, Proteus* 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].

Methodology

Suspend 54.69 grams of powder media in 1000 ml distilled water. Shake well & heat with occasional agitation and bring just to the boil to dissolve the medium completely. DO NOT AUTOCLAVE. For maximum recovery, Sulpha Supplement (MS2068) may be aseptically added. Cool to 50°C. Mix well and pour into sterile Petri plates.

Quality Control

Physical 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 Range 6.70-7.10

Cultural Response/ characteristics

DM 1971I: Cultural characteristics observed after an incubation at 35-37^{0}C for 18-24 hours.

Organism	Growth	Colour of colony
Escherichia coli ATCC 25922	Inhibited	
Proteus vulgaris ATCC 13315	none-poor	Red
Pseudomonas aeruginosa ATCC 10145	none-poor	Red
Salmonella Enteritidis ATCC 13076	Luxuriant	bright red
Salmonella Typhimurium ATCC 14028	luxuriant	bright red

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.
Prepared Media: 2-8^o in sealable plastic bags for 2-5 days.

Further Reading

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: 3 565.
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 Yolken R.H., (Ed.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.

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