Dehydrated Culture Media
Bases / Media Supplements

Technical Information

Brilliant Green Agar with 1.2% Agar

Product Code: DM 1016A

Application: - Brilliant Green Agar w/1 .2% Agar is used as an enrichment medium for isolation of Salmonellae from faeces, urine and other pathological samples.

Composition**

Ingredients	Gms / Litre
Proteose peptone	10.000
Yeast extract	3.000
Lactose	10.000
Sucrose	10.000
Sodium chloride	5.000
Phenol red	0.080
Brilliant green	0.0125
Agar	12.000
Final pH (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 form of Salmonella disease is self-limiting gastroenteritis with fever lasting less than 2 days and diarrhoea lasting less than 7 days [7]. Brilliant Green Agar as a primary plating medium for isolation of Salmonella species was first described by Kristensen et al [1] and further modified by Kauffmann [2] and recommended by APHA [3, 4] FDA [5] and USP [6].

These media contain brilliant green which inhibits growth of most of gram-negative and gram- positive bacteria. There are Salmonella Typhi, Shigella species, Escherichia coli, Proteus species, Pseudomonas species Staphylococcus aureus. Clinical specimens can be directly plated on this medium. However, to increase the chances of recovery, it is recommended that this medium should be used alongwith a less inhibitory medium Often cultures enriched in Selenite (DM1025A) or Tetrathionate Broth (DM1032) are plated on Brilliant Green Agar as well as Bismuth Sulphite Agar (DM1027), SS Agar (DM1108) and MacConkey Agar (DM1081). Phenol red serves as an acid base indicator giving yellow colour to lactose and or sucrose fermenting bacteria. Lactose non-fermenting bacteria develop white to pinkish red colonies within 18 - 24 hours of incubation. Salmonella Typhi and Shigella species may not grow on this medium; moreover Proteus, Pseudomonas and Citrobacter species may mimic enteric pathogens by producing small red colonies.

Methodology

Suspend 25 grams of powder media in 500 ml distilled water. Shake well & heat to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. AVOID OVERHEATING. For more selectivity, aseptically add rehydrated Sulpha Supplement (MS2068). Mix well before pouring into sterile petriplates.

Quality Control

Physical Appearance
Beige to light 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 5.0% w/v aqueous solution at 25°C. pH : 6.9±0.2
pH range: 6.7-7.1

Cultural Response/Characteristics
DM 1016A: Culture characteristic observed after an incubation at 35^0-37^0 C for 18-24 hour.

Organism	Inoculum (CFU)	Growth	Observed Lot value (CFU)	Recovery	Colour of colony
Salmonella Typhimurium ATCC 14028	50-100	good-luxuriant	25-100	>=50 %	pinkish white
Salmonella Abony NCTC 6017	50-100	good-luxuriant	25-100	>=50 %	pinkish white
Salmonella Enteritidis ATCC 13076	50-100	luxuriant	25-100	>=50 %	pinkish white
Salmonella Typhi ATCC 6539	50-100	fair-good	15-40	30-40%	reddish pink
Escherichia coli ATCC 25922	50-100	none-poor	0-10	0-10%	yellowish green
Escherichia coli ATCC 8739	50-100	none-poor	0-10	0-10%	yellowish green
Escherichia coli NCTC 9002	50-100	none-poor	0-10	0-10%	yellowish green
Staphylococcus aureus ATCC 25923	>=10^3	inhibited	0	0%	
Staphylococcus aureus ATCC 6538	>=10^3	inhibited	0	0%	

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. Kristensen M., Lester V. and Jurgens A., 1925, Brit.J.Exp.Pathol., 6:291.
2. Kauffman F., 1935, Seit F. Hyg., 177:26.
3. Vanderzant C. and Splittstoesser D. (Eds.), 1992, Compendium of Methods for Microbiological Examination of Foods, 3rd ed. APHA, Washington D.C.
4. Marshall R. (Ed.), 1992, Standard Methods for the Microbiological Examination of Dairy Products, 16th ed., APHA, Washington, D.C.
5. Bacteriological Analytical Manual, 1978, 5th ed, AOAC, Washington D.C.
6. The United States Pharmacopoeia, 1985, 21st Rev., USP Convention, Rockville MD.
7. 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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