BRILLIANT GREEN AGAR W/ SULFAPYRIDINE (7299)

Intended Use

Brilliant Green Agar w/ Sulfapyridine is used for the selective enrichment of *Salmonella* spp.

Product Summary and Explanation

Salmonellosis continues to be an important public health problem. Infection with non-typhi *Salmonella* spp. often causes mild, self-limiting illness.[1] Illness results from consumption of raw, undercooked, or improperly processed foods contaminated with *Salmonella* spp. Many cases of *Salmonella* related gastroenteritis result from improper handling of poultry products.

Brilliant Green Agar was first described by Kristensen et al.[2] and later modified by Kauffmann.[3] The outstanding selectivity of this medium permits the use of moderately heavy inocula evenly distributed over the surface. The addition of sulfonamides into Brilliant Green Agar further inhibits *Escherichia coli* and *Proteus* spp. Osborne and Stokes used 0.1% Sodium Sulfapyridine to enhance the recovery of *Salmonella* from whole egg and egg yolk.[4]

Principles of the Procedure

Enzymatic Digest of Casein and Enzymatic Digest of Animal Tissue are the carbon and nitrogen source used for general growth requirements in this medium. Yeast Extract supplies B-complex vitamins. Lactose and Sucrose are the carbohydrates. In the presence of Phenol Red, a pH indicator, nonlactose and/or nonsucrose-fermenting *Salmonella* spp. will produce red colonies. Sodium Sulfapyridine and Brilliant Green are the selective agents, inhibiting gram-positive organisms and many gram-negative bacteria, except *Salmonella*. Sodium Chloride maintains the osmotic balance. Agar is the solidifying agent.

Formula / Liter

Yeast Extract	3 g
Enzymatic Digest of Casein	5 g
Enzymatic Digest of Animal Tissue	5 g
Sodium Chloride	5 g
Lactose	10 g
Sucrose	10 g
Brilliant Green	0.0125 g
Phenol Red	0.08 g
Sodium Sulfapyridine	1 g
Agar	20 g

Final pH: 6.9 ± 0.2 at 25°C

Formula may be adjusted and/or supplemented as required to meet performance specifications.

Precautions

1. For Laboratory Use.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

Directions

1. Suspend 59 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes. Avoid overheating.

Quality Control Specifications

Dehydrated Appearance: Powder is homogeneous, free flowing, and beige with a green tint.

Prepared Appearance: Prepared medium is brown-green, and slightly opalescent, and trace to slightly hazy.

Expected Cultural Response: Cultural response on Brilliant Green Agar w/ Sulfapyridine at 35°C for 18 - 24 hours incubation.

Microorganism	Response	Reaction
Escherichia coli ATCC® 25922	partial to complete inhibition	yellow colonies
Salmonella choleraesuis ATCC® 13076	growth	red colonies
Salmonella typhi ATCC® 19430	partial to complete inhibition	red colonies
Salmonella typhimurium ATCC® 14028	growth	red colonies
Staphylococcus aureus ATCC® 25923	inhibited	----

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure

Refer to appropriate references for instructions on specific material being tested for *Salmonella*.[1,5-8]

Results

Refer to appropriate references and procedures for results.

Storage

Store sealed bottle containing the dehydrated medium at 2 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

Expiration

Refer to expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if appearance has changed from the original color. Expiry applies to medium in intact container when stored as directed.

Limitation of the Procedure

Due to varying nutritional requirements, some strains may be encountered that grow poorly or fail to grow on this medium.

Packaging

Brilliant Green Agar w/ Sulfapyridine	**Code No.**	**7299A**	**500 g**
		7299B	**2 kg**
		7299C	**10 kg**

References

1. **Marshall, R. T. (ed.).** Standard methods for the examination of dairy products, 16th ed., American Public Health Association, Washington, D.C.
2. **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.
3. **Kauffmann, F.** 1935. Weitere Erfahrungen mit den kombinierten Anreicherungsverfahren für Salmonnellabacillen. Z. Hyg. Infektioinskr. **117:**26.
4. **Osborne, W. W., and J. L. Stokes.** 1955. The determinations of *Salmonellae* in foods. Ottawa: Food and Drug Laboratories.
5. **U. S. Food and Drug Administration.** Bacteriological analytical manual, 8th ed., AOAC International, Gaithersburg, MD.
6. **Cunnif, P. (ed.).** 1995. Official Methods of Analysis AOAC International, 16th ed. AOAC International, Gaithersburg, MD.
7. **Vanderzant, C., and D. F. Splittstoesser (eds.).** Compendium of methods for the microbiological examination of foods, 3rd ed. American Public Health Association, Washington, D.C.
8. **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.

Technical Information

Contact Acumedia Manufacturers, Inc. for Technical Service or questions involving dehydrated culture media preparation or performance at (410)780-5120 or fax us at (410)780-5470.