Brilliant Green Agar (Modified) (NCM0058)

Intended Use
Brilliant Green Agar (Modified) is used for the selection and differentiation of *Salmonella* (other than *S. typhi*) from foods or feedstuffs. Brilliant Green Agar (Modified) is not intended for use in the diagnosis of disease or other conditions in humans.

Description
First introduced by Kristensen *et al* in 1925 as a selective medium for the isolation of *Salmonella* (except *S. typhi*). The medium was modified by the Netherlands Institute for Public Health, Utrecht. The modification was to increase the selectivity of the medium by increasing the dye concentration. This formulation is quoted by the International Standards Organization, standard European Community Methods, the American Public Health Association and the Association of Official Analytical Chemists. The medium is suitable for subcultures from selective enrichment media. However, because this medium is highly selective, small numbers of salmonellae may be missed. This medium is not recommended for *S. typhi* and *Shigella* spp. Less inhibitory media such as X.L.D. (NCM0021) and Hektoen Enteric Agar (NCM0006) will be useful in detecting *Salmonella* typhi and *Shigella* spp. which are inhibited by Brilliant Green Agar (Modified).

Typical Formulation

Beef Extract	5.0 g/L
Balanced Peptone	10.0 g/L
Yeast Extract	3.0 g/L
Disodium Hydrogen Phosphate	1.0 g/L
Sodium Dihydrogen Phosphate	0.6 g/L
Lactose	10.0 g/L
Sucrose	10.0 g/L
Phenol Red	0.09 g/L
Brilliant Green	0.0047 g/L
Agar	12.0 g/L

Final pH: 6.9 ± 0.2 at 25°C
Formula may be adjusted and/or supplemented as required to meet performance specifications.

Precaution
Refer to SDS

Preparation
1. Suspend 52 grams 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. Cool to 45-50°C.
4. DO NOT AUTOCLAVE.

Quality Control Specifications
Dehydrated Appearance: Powder is homogeneous, free flowing, and beige.

Prepared Appearance: Prepared medium is red-brown and clear with no precipitate.

Effective Date: 5/30/2019
Revision: 1

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Expected Cultural Response: Cultural response on Brilliant Green Agar (Modified) at 37±1°C and examined for growth after 21 - 27 hours incubation

Microorganism	Approx. Inoculum (CFU)	Expected Results	
		Recovery	Reaction
Salmonella typhimurium ATCC® 14028	50-200	≥50%	Pink colonies
Salmonella enteritidis ATCC® 13076	50-200	≥50%	Pink colonies
Escherichia coli ATCC® 25922	>1000	Suppressed to Inhibited	If recovered, yellow colonies
Escherichia coli ATCC® 8739	>1000	Suppressed to Inhibited	If recovered, yellow colonies
Enterococcus faecalis ATCC® 29212	>1000	Complete Inhibition	NA
Proteus mirabilis ATCC® 29906	>1000	Suppressed	Translucent pin point colonies

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

Results

Typical *Salmonella* spp. colonies are red. Serological confirmation is required.

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 its intact container.

Limitations of the Procedure

1. Lactose-fermenting *Salmonella* species may be present in foods.
2. *Salmonella typhi* and *Shigella* species may not growth on this medium.
3. *Proteus*, *Citrobacter,* and *Pseudomonas* species may mimic enteric pathogens by producing small red colonies.

Storage

Store dehydrated culture media at 2 – 30°C away from direct sunlight. Once opened and recapped, place the container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

References

1. Edel, W. and Kamplemacher, E.H. (1968). Comparative studies on Salmonella isolation in eight European laboratories. Bull. Wld. Hlth. Org. 39: 487-491.
2. Edel, W. and Kamplemacher, E.H. (1969). *Salmonella* infections in nine European laboratories using a standard technique. Bull Wld. Hlth. Org. 41: 297-306.
3. www.fda.gov/Food/ScienceResearch/LaboratoryMethods/BacteriologicalAnalyticalmanualBAM/default.htm.
4. American Public Health Association. 2015. Compendium of methods for the microbiological examination of foods, 4th ed. American Public Health Association, Washington, D.C.
5. Pharmacopoeia of culture media for food microbiology. (1987). Int. J. Food Microbiol. 513: 245-247. 3/112
6. ISO 6579-1:2017 Microbiology of the food chain – Horizontal method for the detection, enumeration and serotyping of Salmonella

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