

Brilliant Green Agar, Modified

Intended Use

Brilliant Green Agar, Modified is a highly selective medium used for the isolation of *Salmonella* other than *S. typhi* from clinical and non-clinical samples.

Summary

First introduced by Kristensen *et al* (1925), for isolation of *Salmonella* (except *Salmonella typhi*). The medium was modified by the Netherlands Institute for Public Health, Utrecht. The modification was to increase the dye concentration in the medium to increase the selectivity of the medium. Brilliant Green Agar Modified is recommended for the isolation of *Salmonella*, other than *Salmonella typhi*, from water, meat and meat products. It is recommended by the British Poultry Meat Society for the examination of poultry and poultry products.

Principle

Brilliant Green Agar with phosphates is used for selective isolation and identification of *Salmonella* from mixed flora by inhibiting *Escherichia coli*, *Proteus*, *Pseudomonas* species. Brilliant Green Agar modified is included in standard procedures recommended by APHA for water and wastewater examination. Peptone, cara beef extract and yeast extract act as source of carbon, nitrogen, vitamins, amino acids and other essential nutrients. Phenol red indicator detects the production of acid formed by fermentation of lactose and sucrose. Osmotic equilibrium is maintained by sodium chloride and the medium is buffered by phosphates.

Formula*

Ingredients	g/L
Cara Beef Extract [#]	5.0
Peptone	10.0
Yeast Extract	3.0
Disodium Phosphate	1.0
Monosodium Phosphate	0.6
Lactose	10.0
Sucrose	10.0
Phenol Red	0.09
Brilliant Green	0.0047
Agar	12.0
Final pH (at 25°C)	6.9 ± 0.2

*Adjusted to suit performance parameters.

[#]Equivalent to Beef Extract

Storage and Stability

Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Type of specimen

Clinical samples – faeces, Food samples, Water samples

Specimen Collection and Handling

Ensure that all samples are properly labelled.

Follow appropriate techniques for handling samples as per established guidelines.

Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure.

The samples must be stored and tested within the permissible time duration.

After use, contaminated materials must be sterilized by autoclaving before discarding

Directions

1. Suspend 51.69 g of the powder in 1000 mL purified / distilled water.
2. Mix thoroughly.
3. Heat with frequent agitation until the medium just boils to dissolve the powder completely.
4. DO NOT OVERHEAT OR AUTOCLAVE.
5. Cool immediately in a water bath at 45°C-50°C and pour into sterile petridishes.
6. To increase the selectivity, aseptically add 2 vials of Sulpha Supplement (204191360005) and mix well before pouring into sterile petridishes.

Quality Control

Dehydrated Appearance: Pink coloured, homogenous, free flowing powder.

Prepared Appearance: Brown to orange brown coloured, slightly opalescent gel forms in petridishes.

Cultural Response: Cultural characteristics observed after an incubation of 18-24 hours at 30°C-35°C.

Organism (ATCC)	Growth	Colour of Colony
<i>Escherichia coli</i> (25922)	Partial inhibition	Yellow
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> (25923)	Partial inhibition	Red
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar <i>Typhimurium</i> (14028)	Good	Pinkish white

Interpretation of Results

1. *Salmonella* species produce pinkish-white to red colonies surrounded by brilliant red zones in the medium.
2. Lactose fermenting or sucrose fermenting organisms produce yellow to yellow green colonies surrounded by yellow green zones in the medium. *Proteus*, *Citrobacter* and *Pseudomonas* species, if, present may mimic enteric pathogens by producing small red colonies.

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Precautions/Limitations

1. Brilliant Green Agar, Modified being highly selective, it is recommended that this medium be used along with a less inhibitory medium to increase the chances of recovery. Often cultures enriched in Selenite Broth or Tetrathionate Broth Base is plated on this medium along with Bismuth Sulphite Agar, SS Agar, MacConkey Agar, DCA and XLD Agar.
2. The recovery of many *Salmonella* species is greatly reduced if the specimens (stool samples) remain unpreserved for more than 3 hours before processing.
3. In case of delay, inoculate the specimen onto an appropriate transplant media to maintain viability of the organisms.
4. Organisms other than *Salmonella* species, like *Morganella morgani* and some *Enterobacteriaceae* may grow on this medium. Lactose fermenting *S. arizona* may be present in foods.
5. The medium is not recommended for isolation of *S. typhi*, *S. paratyphi* and *Shigella* species.
6. Protect the medium from light to avoid discolouration.

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. Kristensen M; Lester V and Jurgens A; 1925, Brit. J. Exp. Pathol; 6; 291.
2. IP, 1996, Ministry of Health and Family Welfare, Govt. of India, Vol.2.
3. US Pharmacopeial Convention, Inc. 2001. The United States Pharmacopeia 25/NF20-2002. The US Pharmacopeia Convention, Inc; Rockville, Md.
4. Downes and Ito (ed.) 2001, Compendium Of Methods for The Microbiological Examination of Foods, 4th edition, APHA Washington DC.
5. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201020270100	Dehydrated Culture Media	100 g
201020270500	Dehydrated Culture Media	500 g
203020480100	Bottle Media	100 mL

 Temperature Limit	 Manufacturer	 LOT	Batch Code	 Date of Manufacture	 This way up	 RO Received on
REF Catalogue Number	 Consult Instructions for use	 Use-by Date	 HC	Hygroscopic keep container tightly closed	OO Opened on	

Revision: 0825/VER-03

Disclaimer

Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.