

## Brilliant green agar

Code 84631.0500

### Also known as

BGA

### Intended use

Kristensen selective medium for the isolation of *Salmonella* spp. other than *Salmonella* Typhi.

### Formula \* - Composition in g/L

Enzymatic digest of meat.....	5.000
Pancreatic digest of casein.....	5.000
Yeast extract.....	3.000
Lactose.....	10.000
Sucrose.....	10.000
Sodium chloride.....	5.000
Phenol red.....	0.080
Brilliant green.....	0.0125
Agar.....	20.000

\* Adjusted and/or supplemented as required to meet performance criteria

Final pH 6.9 ± 0.2 at 25 °C.

### Instructions for preparation

Dissolve 58 g in 1 litre of purified water by bringing to the boil with frequent shaking. Sterilise in the autoclave at 121 °C for 15 minutes.

### Principle of the method and general information

Brilliant Green Agar is a selective medium for the isolation of *Salmonella* spp. other than *S. Typhi* and *Salmonella* Paratyphi, from faeces, dairy products or other specimens suspected of *Salmonella* contamination.

Originally described by Kristensen, it was subsequently modified by Kauffmann. The formulation described above incorporates phenol red as the pH indicator and brilliant green as an inhibitory agent for non-pathogenic enteric bacteria and *Shigella*, by selectively favouring *Salmonella* growth, except *S. Typhi* and *S. Paratyphi*. Bacteria that ferment lactose and/or sucrose grow with yellow to yellow-green colonies surrounded by a yellow-green zone. *Salmonella* colonies appear as red to pink-white surrounded by a red zone.

### Instruction for use

For laboratory use only.

The medium can be inoculated directly with the material being examined, or it can be used for a subculture of a specimen previously enriched in a selective enrichment broth. Incubate the streaked plates at 37°C for 18-24 hours. If negative after 24 hours, re-incubate for additional 24 hours.

### Limitations

- It is recommended that biochemical and/or serological tests be performed on pure culture for complete identification of the cultivated bacteria.
- Colonies of *Salmonella* spp. vary from red, pink, or white depending on length of incubation and strain type; however any of these colours indicate non lactose fermenters.
- *S. Typhi* and *S. Paratyphi* do not growth adequately on this medium. *Shigella* spp. do not growth on this medium.
- Medium is normally reddish-brown, however after incubation it can turn bright red and return to normal color at room temperature.
- Taylor showed that slow lactose fermenters, *Proteus*, *Citrobacter*, and *Pseudomonas* may grow on Brilliant green agar as red colonies.

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- Other prepared media should be used along with Brilliant Green Agar when testing for intestinal pathogens (e.g. Mac Conkey agar).

## Quality Control

### Physical characteristics

Appearance of powder

Grey-pink, fine, homogeneous hygroscopic powder

Appearance of prepared medium

Orange-brown, limpid

pH (25°C)

6.9 ± 0.2

### Microbiological characteristics:

Test strains	Incubation T° / t / At.	Inoculation method	Growth characteristics
<i>S. Typhimurium</i> ATCC 14028	37°C / 18-24h A	EC	Good growth red-purple colonies
<i>S. Enteritidis</i> ATCC 13076	37°C / 18-24h A	EC	Good growth red-purple colonies
<i>S. Gallinarum</i> CB 510	37°C / 18-24h A	EC	Good growth red-purple colonies
<i>P. vulgaris</i> ATCC 9484	37°C / 18-24h A	MM	Growth inhibited
<i>E. coli</i> ATCC 25922	37°C / 18-24h A	MM	Growth partially inhibited, green colonies
<i>E. faecalis</i> ATCC 29212	37°C / 18-24h A	MM	Growth inhibited

### Notes

Incubation atmosphere AE:aerobic incubation

Inoculation method EC: semi-quantitative, ecometric technique; MM: modified Miles-Misra surface drop method

ATCC is a registered trade mark of American Type Culture Collection; CB: strain obtained from Laboratory culture collection

## References

- Kristensen, M., V. Lester, and A. Jurgens. 1925 Br. J. Exp. Pathol. 6:291.
- Kauffmann, F. 1935. Z. Hyg. Infektionskr. 117:26.
- MacFaddin, J. F. 1985. Media for isolation-cultivation-identification-maintenance of medical bacteria, Vol. 1. Williams & Wilkins, Baltimore, MD.
- Taylor, W. I. 1965. Am J. Clin. Pathol. 44:471.
- Watson, D.C. and Walker, A.P. 1978. J. App. Bacteriol. 45, 195-204.
- Walker, A.P. 1981. J. Appl. Bacteriol. 51, 405-408.

## Storage conditions

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+10 °C to 30 °C and <60% RH).

## Ordering information

84631.0500 Brilliant green agar Bottle of 500 g