



BD™ Brilliant Green Agar

INTENDED USE

BD Brilliant Green Agar is a highly selective medium used for the isolation of salmonellae other than *S. Typhi* from feces and other materials.

PRINCIPLES AND EXPLANATION OF THE PROCEDURE

Microbiological method.

The use of Brilliant Green Agar for the isolation of *Salmonella* was first described by Kristensen et al. ¹ Later, Kauffmann modified the medium.² The medium has been shown to allow the inoculation of heavy inocula in both clinical and non-clinical settings. It is mentioned in the United States Pharmacopeia for the microbial limit tests, the European Pharmacopeia, and is used for the examination of dairy products and in clinical microbiology manuals.³⁻⁸

In **BD Brilliant Green Agar** the yeast extract and two peptones provide the nutrients; lactose and sucrose together with phenol red provide a differentiation system to exclude lactose and/or sucrose fermenters (e.g. *E. coli*) while salmonellae do not produce acid from these sugars. Brilliant Green is the selective agent to inhibit the accompanying flora.

REAGENTS

Formula* Per Liter Purified Water

BD Brilliant Green Agar

Yeast Extract	3.0 g
Bacto™ Proteose Peptone	10.0
Lactose	10.0
Sucrose	10.0
Sodium Chloride	5.0
Phenol Red	0.08
Agar	20.0
Brilliant Green	12.5 mg

pH 6.9 +/- 0.2

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

PRECAUTIONS

IVD . For professional use only. ⓧ

Do not use plates if they show evidence of microbial contamination, discoloration, drying, cracking or other signs of deterioration.

Consult **GENERAL INSTRUCTIONS FOR USE** document for aseptic handling procedures, biohazards, and disposal of used product.

STORAGE AND SHELF LIFE

On receipt, store plates in the dark at 2 to 8° C, in their original sleeve wrapping until just prior to use. Avoid freezing and overheating. The plates may be inoculated up to the expiration date (see package label) and incubated for the recommended incubation times.

Plates from opened stacks of 10 plates can be used for one week when stored in a clean area at 2 to 8° C.

USER QUALITY CONTROL

Inoculate representative samples with the following strains (for details, see **GENERAL INSTRUCTIONS FOR USE** document). Incubate plates aerobically at 35 to 37° C for 18 to 48 hours.

Strains	Growth Results
<i>Escherichia coli</i> ATCC™ 25922	No growth to fair growth; yellow to greenish yellow colonies, yellow halos.
<i>Enterococcus faecalis</i> ATCC 29212	No growth to light growth; yellowish colonies with or without yellow halos
<i>Proteus mirabilis</i> ATCC 12453	Inhibition partial
<i>Salmonella</i> Abony DSM 4224	10 to 100 colonies; whitish colonies, red halos
<i>Salmonella</i> Typhimurium ATCC 14028	Growth good to excellent; whitish colonies, red halos
Uninoculated	Brownish to olive-green

PROCEDURE

Materials Provided

BD Brilliant Green Agar (**90 mm Stacker™ plates**). Microbiologically controlled.

Materials Not Provided

Ancillary culture media, reagents and laboratory equipment as required.

Specimen types

Stool specimens from patients suspected be infected with *Salmonella* species (see also **PERFORMANCE CHARACTERISTICS AND LIMITATIONS OF THE PROCEDURE**), or animal or food materials.

Test Procedure

Streak the specimen directly or inoculate the medium with a small amount of growth from a liquid enrichment medium such as Tetrathionate Broth. One or two less selective media should also be included, especially when the population in the material is low. Streak for dilution and incubate plates aerobically at 35 to 37° C for 42 to 48 hours. Read the plates after 18 to 24 and after 42 to 48 hours.

Results

Typical appearance of the organisms on **BD Brilliant Green Agar** is as follows:

Organisms	Results
<i>Salmonella</i> (other than <i>S. Typhi</i> and <i>S. Paratyphi</i>)	White to red colonies surrounded by red zones
<i>S. Typhi</i> and <i>S. Paratyphi</i>	No growth to trace growth
<i>Shigella</i> spp.	No growth to trace growth
<i>Escherichia coli</i> , <i>Klebsiella</i> and <i>Enterobacter</i>	Yellow to greenish colonies surrounded by yellow-greenish zones
<i>Proteus</i>	White or red colonies surrounded by red zones
<i>Pseudomonas</i>	No growth to trace growth
Gram positive bacteria	No growth to trace growth

PERFORMANCE CHARACTERISTICS AND LIMITATIONS OF THE PROCEDURE

BD Brilliant Green Agar is a highly selective medium for the isolation of *Salmonella* and allows the isolation of these organisms even from strongly contaminated materials, including feces.⁵⁻⁹

Less selective media for the isolation of *Salmonella* and also a MacConkey II Agar plate should be inoculated with the specimen or material.

Although certain strains will grow, **BD Brilliant Green Agar** is not suitable for the isolation of *Salmonella* Typhi and *S. Paratyphi*.

Although certain diagnostic tests may be performed directly on this medium, biochemical and serological testing using pure cultures is necessary for complete identification.

REFERENCES

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4. Council of Europe, 2002. European Pharmacopoeia, 4th edition, and Supplement 4.2. 2002. European Pharmacopoeia Secretariat. Strasbourg/France.
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8. MacFaddin, J. 1985. Media for the isolation-cultivation- identification-maintenance of medical bacteria. Williams and Wilkins, Baltimore, USA.
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PACKAGING/AVAILABILITY

BD Brilliant Green Agar

Cat. No. 212097 Ready-to-use plated media, 20 plates

FURTHER INFORMATION

For further information please contact your local BD representative.



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