

TM 951 – BRILLIANT GREEN AGAR MEDIUM (BRILLIANT GREEN AGAR, MODIFIED) (as per USP)

INTENDED USE

For isolation of Salmonellae other than *Salmonella Typhi* from faeces, foods and dairy products.

PRODUCT SUMMARY AND EXPLANATION

Brilliant Green Agar medium is recommended as a primary plating medium for isolation of *Salmonella* species was first described by Kristensen et al as medium for differentiation of paratyphoid B from other Gram negative enteric bacteria. Kauffmann further modified it for isolation of Salmonella from stool samples. Brilliant green agar is also recommended by APHA FDA and is in accordance with United States Pharmacopoeia. This medium is employed in testing clinical specimens. Heavy inocula and heavily contaminated samples can be analyzed due to the outstanding selectivity of this medium. Brilliant Green Agar is used in the microbial limits test and with novobiocin for testing food and pharmaceutical products.

Salmonella Typhi, *Shigella* species, *Escherichia coli*, *Proteus* species, *Pseudomonas* species, *Staphylococcus aureus* are mostly inhibited. However, being highly selective, it is recommended that this medium should be used along with a less inhibitory medium to increase the chances of recovery. Often cultures enriched in Selenite or Tetrathionate Broth are plated on Brilliant Green Agar along with Bismuth Sulphite Agar, SS Agar, MacConkey Agar. Non-lactose fermenting bacteria develop white to pinkish red colonies within 18-24 hours of incubation. *Salmonella typhi* and *Shigella* species may not grow on this medium, moreover *Proteus*, *Pseudomonas* and *Citrobacter* species may mimic enteric pathogens by producing small red colonies.

COMPOSITION

Ingredients	Gms / Ltr
Peptone	5.000
Tryptone	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

PRINCIPLE

Combination of peptone, tryptone and yeast extract makes the medium highly nutritious and supplies amino acids and long chains of peptides. Sodium chloride maintains the osmotic equilibrium. Lactose and sucrose are the fermentable carbohydrate sources. Phenol red serves as an acid base indicator giving yellow colour to lactose and or sucrose fermenting bacteria. This medium also contains brilliant green, which inhibits growth of majority of Gram-negative and Gram-positive, bacteria.

INSTRUCTION FOR USE

- Dissolve 58.09 grams in 1000 ml purified /distilled water.
- Heat to boiling to dissolve the medium completely.



- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes. AVOID OVERHEATING.
- Cool to 45-50°C. Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

- Appearance of Powder** : Light yellow to light pink homogeneous free flowing powder.
Appearance of prepared medium : Greenish brown clear to slightly opalescent gel forms in Petri plates.
pH (at 25°C) : 6.9±0.2

INTERPRETATION

Cultural characteristics observed after incubation. Recovery rate is considered as 100% for bacteria growth on Soyabean Casein Digest Agar.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony	Incubation Temperature	Incubation Period
<i>Salmonella Typhimurium</i>	14028	50 -100	Good-luxuriant	>=50 %	Pinkish white	35-37°C	24-48 Hours
<i>Salmonella Enteritidis</i>	13076	50 -100	Good-luxuriant	>=50 %	Pinkish white	35-37°C	24-48 Hours
<i>Salmonella Typhi</i>	6539	50 -100	Poor-good	10-40%	Reddish-pink	35-37°C	24-48 Hours
<i>Escherichia coli</i>	25922	50 -100	None-poor	0-10%	Yellowish-green	35-37°C	24-48 Hours
<i>Escherichia coli</i>	8739	50 -100	None-poor	0-10%	Yellowish-green	35-37°C	24-48 Hours
<i>Staphylococcus aureus</i>	25923	>=10 ³	Inhibited	0%	-	35-37°C	24-48 Hours
<i>Staphylococcus aureus</i>	6538	>=10 ³	Inhibited	0%	-	35-37°C	24-48 Hours

PACKAGING:

In pack size of 100 gm and 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.













DISPOSAL



After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. Kristensen M., Lester V, and Jurgens A., 1925, Brit.J.Exp.Pathol.,6:291.
2. Kauffman F., 1935, Seit F. Hyg. 177:26
3. Downes F P and Ito K. (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th ed., APHA, Washington, D.C.
4. Standard Methods for the Microbiological Examination of Dairy Products, 1995, 19th Ed, APHA, Washington, D.C.
5. Bacteriological Analytical Manual, 8th Edition, Revision A, 1998. AOAC, Washington D.C.
6. The United States Pharmacopoeia, 2009. USP Conv. Rockville, MD.

 GMP Good Manufacturing Practices Certified	 IVD For In Vitro Diagnostic Use	 QTY. Quantity	 LOT/ B. NO. Lot / Batch Number	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 EC REP Authorized Representative <small>MedNet GmbH Birkstrasse 10, 48163 Muenster, Germany</small>	 European Conformity	 QR Code	 Consults Instructions for Use	 Best Before

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**
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