Certificate of Analysis

PREPARED MICROBIOLOGICAL MEDIA

BRILLIANT GREEN SULFA AGAR

Catalogue Number	CMS184-10-10
Product Description	Brilliant Green Sulfa Agar, 10cm. 10 pates
Lot Number	
Date of Manufacture	
Expiry Date	

Intended Use:

A highly selective medium for the isolation and identification of *Salmonella* except *S. typhosa* or *Shigella* species.

Summary and Explanation:

Salmonellosis continues to be an important public health problem worldwide, despite efforts to control the prevalence of Salmonella in domesticated animals. Infection with non-typhi Salmonella often causes mild, self-limiting illness.

The illness results from the consumption of raw, undercooked or improperly processed foods contaminated with Salmonella. Many of these cases of Salmonella-related gastroenteritis are due to improper handling of poultry products. Various poultry products are routinely monitored for Salmonella before their distribution for human consumption, but in many instances, contaminated food samples elude detection.

BG (Brilliant Green) Sulfa Agar is a highly selective medium. Osborne and Stokes1 added 0.1% sodium sulfapyridine to Brilliant Green Agar to enhance the selective properties of this medium for Salmonella. This formula is recommended as a selective isolation medium for Salmonella following enrichment.2 It is also recommended for direct inoculation with primary specimens for Salmonella isolation. For food testing,

BG Sulfa Agar has been used for the detection of Salmonella in low and high-moisture foods.[3,4] It has also been used for detecting Salmonella in feeds and feed ingredients.[5] This medium is recommended when testing foods for Salmonella following USDA guidelines.[6]

REAGENTS (FORMULA):

Bacteriological peptone …….…….….10.0		g
Yeast extract ……..3.0		g
Brilliant green …….…..... 0.0047		g
Calcium Carbonate..... 20.0		g
disodium hydrogen phosphate ……..... 1.0		g
Lactose……..10.0		g
Meat Extract..... 5.0		g
Sodium dihydrogen phosphate……0.6		g
Sucrose ……..…10.0		g
Phenol Red ….……...…….....…….0.09		g
Agar ……..……...12.0		g
Deionized Water 1000.0		ml

Preparation Note

Suspend 52 g in 1 liter of distilled water. Heat gently with occasional agitation and bring just to the boil to dissolve the medium completely. Do not autoclave! Cool to 50°C, mix well and pour plates.

QA Testing:	Result:	Expected:
Characteristics	**Pass**	**Pass**
Sterility	**Pass**	**Pass**
Performance	**Pass**	**Pass**

pH	6.9 ± 0.2 @ 25°C
Appearance	Brilliant Green,
Storage Condition	Refrigerate, 2-8°C
Sterility Method	Do not Autoclave
Sterility Test	Pass

(Absence of growth following 72 hours at 30 - 35°C)

Principle and Interpretation:

In BG Sulfa Agar, peptone and yeast extract provide nitrogen, vitamins and minerals. Lactose and sucrose are the sources of carbohydrates in the medium. Brilliant green and sodium pyridine are complementary in inhibiting gram-positive bacteria and most gram-negative bacilli other than Salmonella spp. Phenol red is the pH indicator that turns the medium yellow color with the formation of acid when lactose and/or sucrose is fermented. Agar is the solidifying agent.

Expected Results:

The typical *Salmonella* colonies appear as pink-white to red opaque colonies surrounded by a brilliant red medium. The few lactose and/or sucrose fermenting organisms that grow are readily differentiated due to the formation of a yellow-green colony surrounded by an intense yellow-green zone. BG Sulfa Agar is not suitable for the isolation of *S. Typhi* or *Shigella*; however, some strains of *S. Typhi* may grow forming red colonies.

Organisms	Incubation	Results
Salmonella enterica subsp. Enterica *serotype Enteritidis* 13076	35 ± 2°C for 18-48 hours	Good Grow/ Pink-white/ Red
Salmonella enterica subsp. Enterica serotype *Typhimurium* 14028	35 ± 2°C for 18-48 hours	Good Grow/ Pink-white/ Red
Escherichia coli ATCC 25922	35 ± 2°C for 18-48 hours	Poor Grow, Yellow-green/
Proteus vulgaris ATCC 13315	35 ± 2°C for 18-48 hours	No Grow/ No Change

BIBLIOGRAPHY:

1. Osborn and Stokes. 1955. Appl. Microbiol. 3:295.
2. Downes and Ito (ed.). 2001. Compendium of methods for the microbiological examination of foods, 4th ed. American Public Health Association, Washington, D.C.
3. D'Aoust, Maishment, Burgener, Conley, Loit, Milling and Purvis. 1980. J. Food Prot. 43:343.
4. D'Aoust. 1984. J. Food Prot. 47:588.
5. D'Aoust, Sewell and Boville. 1983. J. Food Prot. 46:851.
6. Moats. 1981. J. Food Prot. 44:375.
7. Federal Register. 1996. Fed. Regist. 61:38917.
8. U.S. Department of Agriculture. Microbiology laboratory guidebook, online. Food Safety and Inspection Service, USDA, Washington, D.C.

Released By: Mehdi Kargar

Date:

All our prepared media products are manufactured at our site in RCFFN, University of Manitoba, and tested both at our site and by the department of Microbiology, University of Manitoba.
The generation of this certificate confirms all sterilization and performance criteria have been achieved.
NOTE: Expiry Date only valid if packs stored unopened at Ambient Room Temperature not exceeding 25°C.

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155-196 Innovation Drive, Winnipeg, MB, R3T 6C5, Canada

Phone: +1 (431) 334-9715 Email: info@cbsalife.com Website: https://cbsalife.com