TM 2423 – WILSON AND BLAIR'S BBS AGAR MEDIUM 10. (as per IP) (TRIPLE PACK)

INTENDED USE

Recommended for the selective subculture of *Salmonella* species.

PRODUCT SUMMARY AND EXPLANATION

Wilson and Blair's BBS Agar formulated by Wilson and Blair is recommended for isolating *Salmonella* species especially *Salmonella Typhi* from clinical specimens. The selective reagent formulation is a modification of the bismuth sulphite reagent described by Hajna and Perry. This medium is particularly valuable for the isolation of *S. Typhi*. The medium is highly selective for Salmonellae, being inhibitory to coliforms, *Proteus*; occasional strains of coliforms grow to form dull green or brown colonies, but without a surrounding metallic sheen.

Salmonella is a genus of gram-negative *Enterobacteriaceae* - commonly implicated in foodborne illness and the causative agent of typhoid and paratyphoid fever. *Salmonella* species have been isolated from humans and animals.

This medium is recommended by Indian Pharmacopoeia for the selective subculture of *Salmonella* after enrichment in Rappaport Vassiliadis Salmonella Enrichment Broth. The medium is also suitable for the isolation of lactose-fermenting strains of Salmonellae (which cannot be differentiated on lactose containing differential media) since lactose is not the fermentable substrate used in this medium.

COMPOSITION

Ingredients	Gms / Ltr
Nutrient Agar	**Part I**
Peptone	10.000
Beef extract	10.000
Sodium chloride	5.000
Agar	20.000
Solution (i) Bismuth Sulphite Glucose Phosphate mixture	**Part II (Gms/200ml)**
Bismuth ammonio-citrate scales	6.000
Sodium sulphite	20.000
Disodium hydrogen phosphate	20.000
Glucose	10.000
Solution (ii) Iron citrate brilliant green mixture	**Part III (Gms/45ml)**
Ferric citrate, brown scales	0.400
Brilliant green	0.050

PRINCIPLE

The medium consists of Peptone and Beef extract which provide nitrogenous, carbonaceous compounds, long chain amino acids, vitamins and other growth nutrients. Sodium chloride maintains the osmotic balance. Brilliant green dye inhibits all gram positive bacteria. Glucose is the fermentable carbohydrate. Bismuth is a heavy metal, which is inhibitory to most gram-negative enteric bacilli other than *Salmonella*. Ferric citrate is reduced by *Salmonella* species in presence of bismuth ammonium citrate and glucose to form iron sulphide, indicated by black coloured colonies. Disodium hydrogen phosphate buffers the medium well.

INSTRUCTION FOR USE

- Dissolve 4.5 grams of Part I in 100 ml purified/ distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Dissolve 5.6 grams of Part II [Bismuth Sulphite Glucose Phosphate Mixture, solution (i)] in 20 ml sterile purified/ distilled water, boil the solution till all the ingredients are properly dissolved.
- Dissolve 0.045 grams of Part III [Iron Citrate Brilliant Green Mixture, solution (ii)] in 4.5 ml sterile purified/ distilled water.
- Mix aseptically 20 ml of Part II and 4.5 ml of Part III with 100 ml of previously melted sterile Nutrient Agar (Part I) and cool to a temperature 60°C and pour into sterile Petri plates.

  Note: Directions specified are as per the concurrent edition of pharmacopoeia in force. Specified expiry period corresponds to this. User must ensure its compatibility with the latest edition.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Part I: Cream to yellow homogeneous free flowing powder. Part II: White to off white homogeneous free flowing powder. Part III: Green homogeneous free flowing granules.
Appearance of prepared medium	: After addition of Part II and Part III to Part I :Greenish yellow coloured, opaque gel forms in Petri plates.
pH (at 25°C)	: 7.4 ± 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
Salmonella Typhimurium	14028	50-100	Luxuriant	>=70 %	Green colonies with black center to black with metallic sheen	30-35°C	24-48 Hours
Escherichia coli	8739	>=10^3	Inhibited	0%	-	30-35°C	>=48 hours
Shigella boydii	8700	>=10^3	Inhibited	0%	-	30-35°C	>=48 hours

Proteus mirabilis	25933	50-100	Luxuriant	>=70%	Green	30-35°C	24-48 Hours
Salmonella Enteritidis	13076	50-100	Luxuriant	>=70%	Black with sheen	30-35°C	24-48 Hours
Salmonella Typhi	6539	50-100	Luxuriant	>=70%	Black with sheen	30-35°C	24-48 Hours
Escherichia coli	25922	>=10^3	Inhibited	0%	-	30-35°C	>=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. Murray P.R., Baron J.H., Pfaller M.A., Jorgensen J.H. and Yolken R.H.,(Ed.), 2003, Manual of Clinical Microbiology, 8thEd., American Society for Microbiology, Washington, D.C.
2. Wilson W. J. and Blair E. M., 1926, J. Pathol. Bacteriol., 29 : 310.
3. Hajna A. A. and Perry C. A., 1938, J. Lab. Clin. Med., 23:1185.
4. Collee J.g., Fraser A.g., Marmion B.P., Simmons A., (Eds), Mackie and MC Cartney, Practical Medical Microbiology, 1996, 14th Edition, Churchill Livingstone
5. The Indian Pharmacopoeia 2014, Goverment of India 2014, The Controller of Publication.

GMP Good Manufacturing Practices Certified
IVD For In Vitro Diagnostic Use
QTY. Quantity
LOT/ B. NO. Lot / Batch Number
REF Catalogue Number
Manufacturer
Temprature Unit
EC REP MedNet GmbH Borkstrasse 10, 48163 Muenster, Germany Authorized Representative
CE 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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