TM 364 – BRILLIANT GREEN AGAR BASE, MODIFIED

INTENDED USE

For selective isolation of Salmonellae other than *Salmonella Typhi* from faeces and foods etc.

PRODUCT SUMMARY AND EXPLANATION

Salmonella species cause many types of infections, from mild self-limiting gastroenteritis to life threatening typhoid fever. The most common form of Salmonella disease is self-limiting gastroenteritis with fever lasting less than 2 days and diarrhoea lasting less than 7 days. Brilliant Green Agar Base, Modified, as a primary plating medium for isolation of *Salmonella* species was first described by Kristensen et. al. and further modified by Kauffmann. Brilliant Green Agar is also recommended by APHA, FDA and described in EP, BP and IP.

Clinical specimens can be directly plated on this medium. 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 is plated on Brilliant Green Agar along with Bismuth Sulphite Agar, SS Agar, MacConkey Agar. Brilliant green helps to inhibit the contaminating microflora. The medium can further supplemented with sulphaacetamide (1g/l) and sodium mandelate (0.25g/l) to inhibit contaminating microorganisms when the sample is suspected to contain large number of competing organisms along with *Salmonella* species. Non-lactose fermenting bacteria develop white to pinkish red colonies within 18 - 24 hours of incubation.

COMPOSITION

Ingredients	Gms / Ltr
Proteose peptone	10.000
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

This medium contains brilliant green, which inhibits growth of majority of Gram-negative and Gram-positive bacteria. *Salmonella* Typhi, *Shigella* species *Escherichia coli, Pseudomonas species, Staphylococcus aureus* are mostly inhibited. The medium contains proteose peptone and yeast extract as sources of carbon, nitrogen, vitamins, amino acids and essential nutrients. The two sugars namely lactose and sucrose serve as energy sources. Fermentation of lactose and/or sucrose in the medium results in the formation of acidic pH which is detected by phenol red indicator. Sodium chloride maintains the osmotic equilibrium. Brilliant green helps to inhibit the contaminating microflora.

INSTRUCTION FOR USE

- Dissolve 29.0 grams in 500 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.
- For more selectivity, aseptically add rehydrated contents of 1 vial of Sulpha Supplement.
- Mix well before pouring 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.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony	Incubation Temperature	Incubation Period
Escherichia coli	25922	50 -100	None-poor	0-10%	Yellowish green	30-35°C	24-48 Hours
Escherichia coli	8739	50 -100	None-poor	0-10%	Yellowish green	30-35°C	24-48 Hours
Staphylococcus aureus subsp. aureus	25923	>=10^3	Inhibited	0%	-	30-35°C	24-48 Hours
Staphylococcus aureus subsp. aureus	6538	>=10^3	Inhibited	0%	-	30-35°C	24-48 Hours
Salmonella Typhi	6539	50-100	Fair-good	20-40%	Reddish-pink	30-35°C	24-48 Hours
Salmonella Typhimurium	14028	50 -100	Good-luxuriant	>=50%	Pinkish white	30-35°C	24-48 Hours
Salmonella Enteritidis	13076	50 -100	Luxuriant	>=70%	Pinkish white	30-35°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

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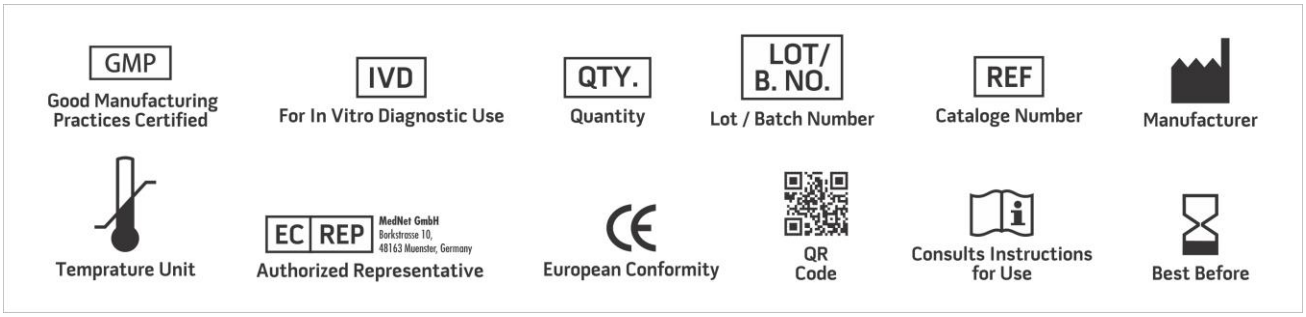

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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