TM 426 – VIOLET RED BILE AGAR

INTENDED USE
For isolation and enumeration of coli-aerogenes in water, milk and other dairy food products.

PRODUCT SUMMARY AND EXPLANATION
The coliform group consists of several genera of bacteria belonging to the family *Enterobacteriaceae*. The historical definition of this group has been based on the method used for detection i.e. lactose fermentation. This group is defined as all aerobic and facultative anaerobic, gram-negative, non-spore-forming rod shaped bacteria that ferment lactose with gas and acid formation within 48 hour at 35°C. Examination of foods, ingredients and raw materials, for the presence of marker groups such as coliforms is the one of the common tests.

Violet Red Bile Agar, a modification of MacConkey original formulation is used for the enumeration of coli-aerogenes bacterial group. It relies on the use of the selective inhibitory components crystals violet and bile salts and the indicator system lactose, and neutral red. Thus, the growth of many unwanted organisms is suppressed, while tentative identification of sought bacteria can be made. Organisms, which rapidly attack lactose, produce purple colonies surrounded by purple halos. Non fermenters or late lactose-fermenters produce pale colonies with greenish zones. VRBA is recommended by APHA. Selectivity of VRBA can be increased by incubation under anaerobic conditions and/ or at elevated temperature, i.e. equal to or above 42°C.

COMPOSITION

Ingredients	Gms / Ltr
Peptic digest of animal tissues	7.000
Sodium chloride	5.000
Yeast extract	3.000
Bile salts mixture	1.500
Lactose	10.000
Neutral red	0.030
Crystal violet	0.002
Agar	15.000

PRINCIPLE
Peptic digest of animal tissue and yeast extract serve as sources of carbon, nitrogen, vitamins and other essential growth nutrients. Lactose is the fermentable carbohydrate, utilization of which leads to the production of acids. Neutral red indicator detects the acidity so formed. Crystal violet and bile salts mixture help to inhibit the accompanying gram-positive and unrelated flora. Sodium chloride maintains the osmotic equilibrium. Violet Red Bile Agar is not completely specific for enteric; other accompanying bacteria may give the same reaction. Further biochemical tests are necessary for positive identification.

INSTRUCTION FOR USE
- Dissolve 41.53 grams in 1000 ml distilled water.
- Heat with stirring to boiling to dissolve the medium completely. Do not autoclave.

- Cool to 45°C and pour into sterile Petri plates containing the inoculum. If desired, the medium can be sterilized by autoclaving at 15 psi pressure at 15lbs pressure (121°C) for 15 minutes.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Light yellow to pink homogeneous free flowing powder
Appearance of prepared medium : Reddish purple coloured clear to slightly opalescent gel forms in Petri plates.
pH (at 25°C) : 7.4 ± 0.2

INTERPRETATION

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Color of the colony	Incubation Temperature	Incubation Period
Enterobacter aerogenes	13048	50-100	Good - Luxuriant	>=50%	Pink to pinkish red	35-37°C	18-24 Hours
Clostridium sporogenes	11437	50-100	Good - Luxuriant	>=50%	Pinkish red with bile precipitate	35-37°C	18-24 Hours
Salmonella Enteritidis	13076	50-100	Good - Luxuriant	>=50%	Colourless to orangish yellow	35-37°C	18-24 Hours
Staphylococcus aureus	25923	$>10^3$	Inhibited	0%	-	35-37°C	18-24 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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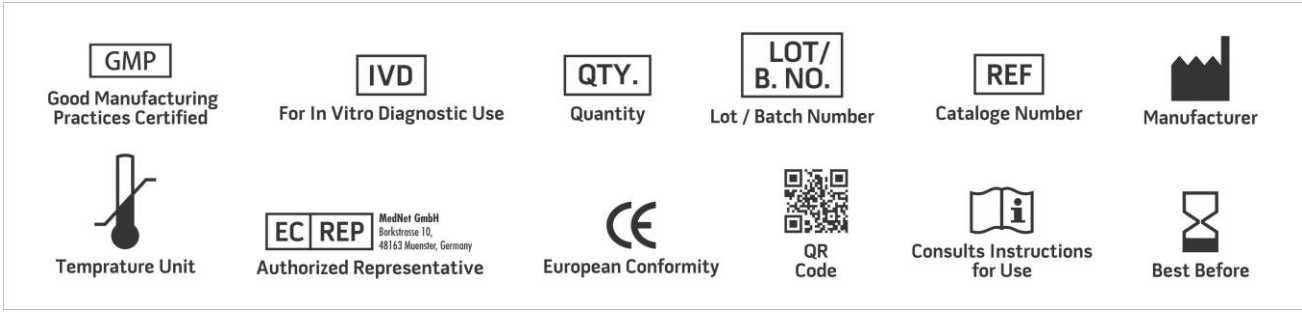

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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