TM 892 – TRYPTONE BILE AGAR

INTENDED USE

For fast detection and enumeration of *Escherichia coli* in foods using direct plating method.

PRODUCT SUMMARY AND EXPLANATION

Tryptone Bile Agar was formulated by Anderson and Baird-Parker. The International Commission on the Microbiological Specifications for Foods (CMSF) compared the Most Probable Number (MPN) and the Anderson-Baird-Parker Direct Plating Method (DPM) and observed that DPM was superior to MPN for enumeration of Escherichia coli from raw meats. Superiority of DPM method was noticed by the organization on the basis of less variability, better recovery from frozen samples, greater rapidity and the smaller quantity of medium required.

The DPM enumerates both anaerogenic and late lactose fermenting strains of *E. coli* which could be missed by the MPN method (about 10%). This formulation is recommended by ISO committee for the enumeration of *E. coli*. Holbrook et al modified the DPM for detection and enumeration of sublethally damaged cells of *E. coli* in frozen, dried, heat processed or acid foods and found that resuscitation step reduces the high concentration of sugar present in the inoculum to a level which does not interfere with the production of indole as the synthesis of tryptophanase is inhibited by high sugar concentrations. Certain organisms breakdown the amino acid tryptophan with the help of enzymes that mediate the production of indole by hydrolytic activity. The indole produced can be detected by either Kovacs or Ehrlichs reagent. Indole combines with the aldehyde present in the above reagent to give red colour in the alcohol layer. The alcohol layer extracts and concentrates the red colour complex. The indole positive organisms other than E. coli are inhibited by bile salts and elevated incubation temperature.

COMPOSITION

Ingredients	Gms / Ltr
Tryptone	20.000
Bile salts mixture	1.500
Agar	15.000

PRINCIPLE

The medium contains tryptone which acts as nutrient for microorganisms. The agar acts as a solidifying agent.

INSTRUCTION FOR USE

- Dissolve 36.5 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. Cool to 45-50°C.
- Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium : Yellow coloured clear to slightly opalescent gel forms in Petri plates.
pH (at 25°C) : 7.2±0.2

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
Klebsiella aerogenes	13048	>=10^4	Inhibited	0%	44°C	24 Hours
Escherichia coli	25922	50-100	Good-luxuriant	>=50%	44°C	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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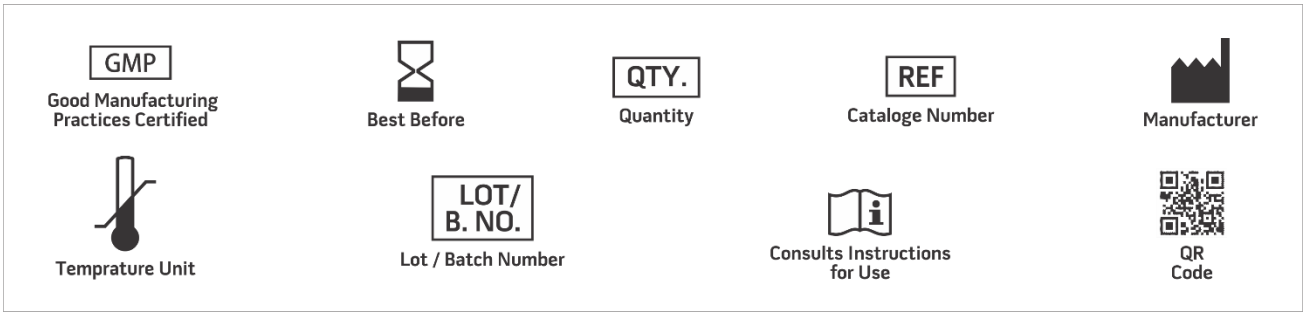

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.
***For Lab Use Only**
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