TM 104 – EUGONIC BROTH

INTENDED USE

For cultivation of fastidious microorganisms like *Haemophilus, Neisseria, Pasteurella, Brucella* and *Lactobacillus* species.

PRODUCT SUMMARY AND EXPLANATION

Eugonic Broth was developed by Pelczar and Vera for cultivation of fastidious organisms like *Brucella*. This medium can also be used to grow Mycobacteria and various pathogenic fungi including *Nocardia, Histoplasma and Blastomyces*, when enriched with blood. Niven used this media for detection of spoilage of meats.

Eugonic Broth was developed to obtain eugonic (luxuriant) growth of fastidious microorganisms like *Brucella* which are otherwise difficult to cultivate. The unenriched medium supports rapid growth of lactobacilli associated with cured meat products, dairy products and other foods. APHA recommends Eugonic Broth, which is also used in germinating anaerobic spores pasteurized at 104°C. Organisms like *Bordetella* and *Neisseria* proliferate in Eugonic Broth because large amount of sulfur and carbon sources have been added in the formulation. Therefore, Eugonic Broth is recommended for the direct isolation of *Bordetella pertussis* and *Neisseria meningitides* from the test materials such as throat mucus, blood, cerebrospinal fluid, pleural fluid and other specimens. For the isolation of *Bacillus pumilus*, Eugonic Broth can be supplemented with 0.1% starch, prior to sterilization.

COMPOSITION

Ingredients	Gms / Ltr
Casein enzymic hydrolysate	15.000
Papaic digest of soyabean meal	5.000
Dextrose	5.000
Sodium chloride	4.000
Sodium sulphite	0.200
L-Cystine	0.200

PRINCIPLE

The medium consists of Casein enzymic hydrolysate and papaic digest of soyabean meal which provide the nitrogen, vitamins and amino acids, which supports the growth of fastidious microbial species. The high concentration of dextrose is the energy source for rapid growth of bacteria. L-Cystine and sodium sulphite are added to stimulate growth. Sodium chloride maintains the osmotic balance of the media. The high carbohydrate content along with high sulfur (cystine) content improves growth with chromogenicity.

INSTRUCTION FOR USE

- Dissolve 29.4 grams in 1000 ml purified / distilled water.
- Heat if necessary with frequent stirring to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to 40-45°C and add 5 -10% v/v sterile defibrinated blood if desired. The blood may be chocolated by heating.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium : Yellow coloured, clear solution in tubes.
pH (at 25°C) : 7.0 ± 0.2

INTERPRETATION

Cultural characteristics observed with added 5-10% sterile defibrinated blood after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Incubation Temperature	Incubation Period
Bacillus pumilus	14884	50-100	Good (with 0.1% starch)	35-37°C	48 Hours
Brucella abortus	4315	50-100	Good (under 3-5% CO2)	35-37°C	48 Hours
Candida albicans	26790	10-100	Good	25-30°C	48 Hours
Lactobacillus fermentum	9338	50-100	Good	35-37°C	48 Hours
Neisseria meningitidis	13090	50-100	Good	35-37°C	48 Hours
Streptococcus pneumoniae	6303	50-100	Luxuriant (under 3-5% CO2)	35-37°C	48 Hours
Streptococcus pyogenes	19615	50-100	Luxuriant (under 3-5% CO2)	35-37°C	48 Hours

PACKAGING:

In pack size of 500 gm bottles.

STORAGE

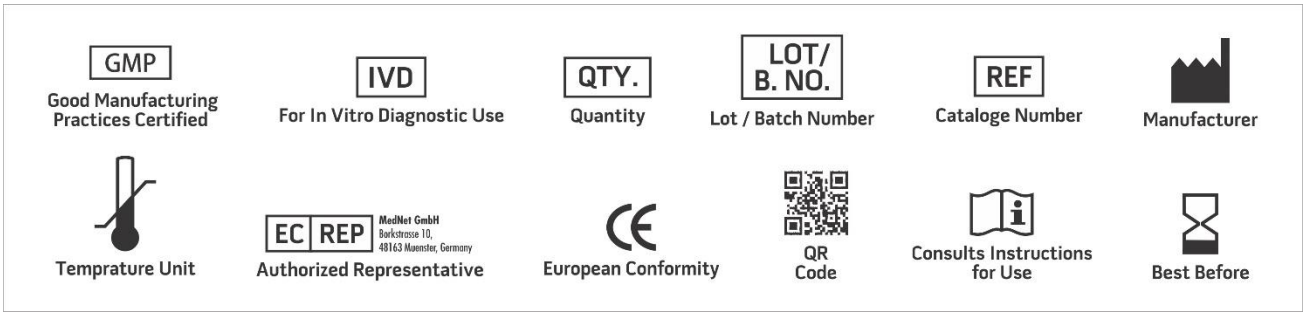
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided 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. Pelczar and Vera J., 1949, Milk Plant Monthly 38:30
2. Niven C. F., Castellani A. G., and Allanson V., 1949, J. Bacteriol., 58:633.
3. Downes F. P. and Ito K., (Ed.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., American Public Health Association, Washington, D.C.
4. Frank H. A., 1955, J. Bacteriol., 70:269.
5. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams & Wilkins, Baltimore, Md.



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

***For Lab Use Only**

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