TM 105 – EUGONIC AGAR

INTENDED USE

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

PRODUCT SUMMARY AND EXPLANATION

Eugonic Agar was developed by Pelczar and Vera for cultivation of fastidious organisms like Brucella. These media 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 Agar was developed to obtain eugonic (luxuriant) growth of fastidious microorganisms like *Brucella* that are otherwise difficult to cultivate. The unnourished medium supports rapid growth of lactobacilli associated with cured meat products, dairy products and other foods. APHA recommends Eugonic agar, which is also used in germinating anaerobic spores pasteurized at 104°C.

Eugonic Agar is quite similar to Tryptone Soya Agar but more bacterial propagation is expected on Eugonic Agar. Organisms like *Bordetella* and *Neisseria* form minute colonies on Tryptone Soya Agar. They may become large on Eugonic agar because large amount of sulfur and carbon sources have been added in addition to the Tryptone Soya Agar formula. Therefore, this medium 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 Agar 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
Agar	15.000

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

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) : 7.0 ± 0.2

INTERPRETATION

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

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
Bacillus pumilus	14884	50-100	Good (with 0.1% starch)	40-50%	35-37°C	48 Hours
Candida albicans	26790	10-100	Good	40-50%	25-30°C	48 Hours
Lactobacillus fermentum	9338	50-100	Good	40-50%	35-37°C	48 Hours
Neisseria meningitidis	13090	50-100	Good	40-50%	35-37°C	48 Hours
Streptococcus pneumoniae	6303	50-100	Luxuriant (under 3-5% CO2)	>=70%	35-37°C	48 Hours
Streptococcus pyogenes	19615	50-100	Luxuriant (under 3-5% CO2)	>=70%	35-37°C	48 Hours

PACKAGING:

In pack size of 500 gm bottles.

STORAGE

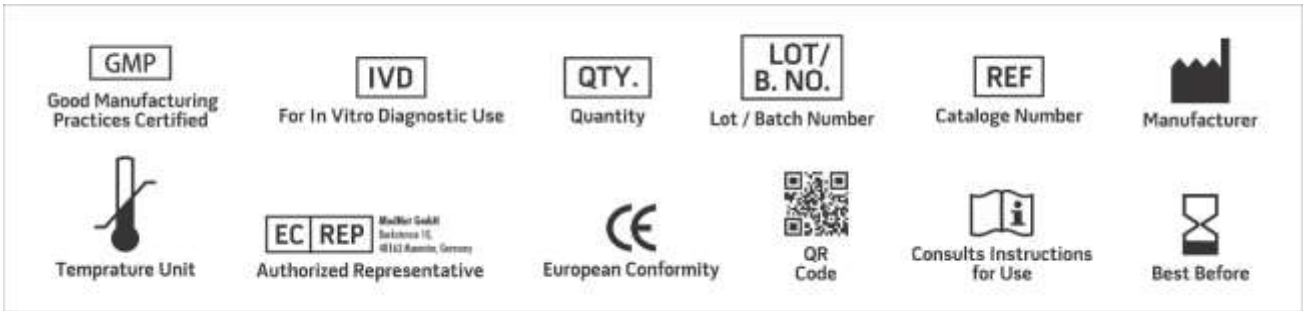
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided 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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