Eugonic LT 100 Medium Base w/o Tween 80 (DM1299)

Intended Use

Eugonic LT 100 Medium Base w/o Tween 80 (DM1299) for cultivation of fastidious microorganisms like Haemophilus, *Neisserria, Pasteurella, Brucella* and *Lactobacillus* species.

Product Summary and Explanation

Eugonic LT 100 Medium Base is prepared according to the formula described by Pelczar and Vera[1] for cultivation of fastidious organisms like *Brucella* and can be used with or without enrichment. Eugon media were developed to obtain eugonic (luxuriant) growth of fastidious microorganisms like *Brucella* which are otherwise difficult to cultivate.[2] Enriched with blood, Eugon Agar supports the growth of pathogenic fungi including *Nocardia*, *Histoplasma* and *Blastomyces*. With the addition of Supplement B, excellent growth of *Neisseria*, *Francisella* and *Brucella* is achieved. The unenriched medium supports rapid growth of lactobacilli associated with cured meat products, dairy products and other foods. Niven[3] reported the use of Eugon Agar for the detection of lactic acid in cured meats, and recommended it for investigating spoilage in meats. Harrison and Hansen[4] employed the medium for plate counts of the intestinal flora of turkeys. Frank [5] showed its usefulness in germinating anaerobic spores pasteurized at 104°C. Eugonic media is quite similar to Tryptone Soya Agar (DM247) but more bacterial propagation is expected on Eugonic media. Organisms like *Bordetella* and *Neisseria* form minute colonies on Tryptone Soya Agar (DM247). They may become large on Eugon Media because large amount of sulfur and carbon sources have been added in addition to the Tryptone Soya Agar (DM247) formula. Eugonic LT 100 Medium w/o Tween 80 can be used for growth of a variety of fastidious microorganisms like *Neisseria, Francisella* and *Brucella*. Eugon Agar is included in the *Compendium of Methods for the Microbiological Examination of Foods*.[6]

Principles of the Procedure

Eugonic LT 100 Medium Base w/o Tween 80 contains peptones casein enzymic hydrolysate and papaic digest of soyabean meal provides the nitrogen, vitamins and amino acids, which supports the growth of fastidious microbial species. The high concentration of glucose is the energy source for rapid growth of bacteria. Sodium chloride maintains the osmotic balance of the media. L-Cystine and sodium sulphite are added to the medium in order to stimulate growth. The high carbohydrate content along with high sulfur (cystine) content improves growth with chromogenicity. Lecithin and polysorbate 80 helps to neutralize the antimicrobial agents, therefore this medium can be used as a neutralizing diluent.

Formula / Liter

Ingredients	Gms / Liter
Casein enzymic hydrolysate	15.00
Papaic digest of soyabean meal	5.00
Glucose	5.50
Sodium chloride	4.00
Sodium sulphite	0.20
L-Cystine	0.70
Egg lecithin	1.00
Triton X-100	1.00
Agar	15.00
Final pH: 7.0 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

Precautions

1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

Directions

1. Suspend 47.40 grams of the medium in one liter of distilled water, add 5 grams of Polysorbate 80 (Tween 80).
2. Heat if necessary, to dissolve the medium completely.
3. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.
4. Mix well and pour into sterile petri plates.

Quality Control Specifications

Dehydrated Appearance	Cream to yellow colored, homogeneous, free flowing powder
Prepared Medium	Yellow coloured, clear to slightly opalescent gel forms in Petri plates
Reaction of 4.74% Solution	pH : 7.0 ± 0.2 at 25°C
Gel Strength	Firm, comparable with 1.5% Agar gel

Expected Cultural Response: Cultural characteristics observed with added 5-10% sterile defibrinated blood after an incubation at 35-37°C for 48 hours (fungal cultures incubated at 25-30°C).

Sr. No.	Organisms	Results to be achieved		
		Inoculum (CFU)	Growth	Recovery
1.	*Bacillus pumilus ATCC 14884*	50 - 100	good (with 0.1% starch)	50-70%
2.	*Brucella abortus ATCC 4315*	50 - 100	good (under 3-5% CO_2)	50-70%
3.	*Candida albicans ATCC 26790*	50 - 100	good	50-70%
4.	*Lactobacillus fermentum ATCC 9338*	50 - 100	good	50-70%
5.	*Neisseria meningitidis ATCC 13090*	50 - 100	good	>=70%
6.	*Streptococcus pneumonia ATCC 6303*	50 - 100	good-luxuriant (under 3-5% CO_2)	>=70%
7.	*Streptococcus pyogenes ATCC 19615*	50 - 100	good-luxuriant (under 3-5% CO_2)	50-70%
8.	*Staphylococcus aureus ATCC 25923*	50 - 100	good-luxuriant	50-70%
9.	*Staphylococcus aureus ATCC 6538*	50 - 100	good-luxuriant	50-70%
10.	*Candida albicans ATCC 10231*	50 - 100	good	50-70%
11.	*Bacillus subtilis ATCC 6633*	50 - 100	good	50-70%
12.	*Pseudomonas aeruginosa ATCC 9027*	50 - 100	good	>=70%
13.	*Escherichia coli ATCC 8739*	50 - 100	good-luxuriant	50-70%

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure

1. Refer to appropriate references for a complete discussion on bacteria and fungi from clinical specimens, refer to appropriate procedures.
2. For the examination of bacteria and fungi in food refer to standard methods.

Results

Refer to appropriate references and procedures for results.

Storage

Store the sealed bottle containing the dehydrated medium at 10 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

Expiration

Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitations of the Procedure

1. Eugonic LT 100 Medium Base w/o Tween 80 is not recommended as a blood agar base for hemolytic reactions because of its high sugar content.
2. For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
3. Consult appropriate texts for detailed information and recommended procedures.

Packaging

Product Name : Eugonic LT 100 Medium Base w/o Tween 80.
Product Code : DM1299
Available Pack sizes : 500gm

References

1. Vera, H. D. 1947. The ability of peptones to support surface growth of lactobacilli. J. Bacteriol. 54:14.
2. MacFaddin, J. D. 1985. Media for the isolation-cultivation-identification-maintenance of medical bacteria, vol. 1, p. 131-143. Williams & Wilkins, Baltimore, MD.
3. Niven. 1949. J. Bacteriol. 58:633.
4. Harrison, A. P., Jr., and P. A. Hansen. 1950. The bacterial flora of the cecal feces of healthy turkeys. J. Bacteriol. 59:197.
5. Frank, H. A. 1955. The influence of various media on spore count determinations of a putrefactive anaerobe. J. Bacteriol. 53:561.
6. Vanderzant, C., and D. F. Splittstoesser (eds.). 1992. Compendium of methods for the microbiological examination of food, 3rd ed. American Public Health Association, Washington, D.C.

Further Information

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