PRODUCT SPECIFICATION SHEET

Eugonic Agar (DM106)

Intended Use
Eugonic Agar (DM106) is recommended for cultivation of fastidious microorganisms like *Haemophilus*, *Neisserria*, *Pasteurella*, *Brucella* and *Lactobacillus* species.

Product Summary and Explanation
Eugonic Agar 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. 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.[2] Eugonic Agar is included in the *Compendium of Methods for the Microbiological Examination of Foods*.[6]

Principles of the Procedure
Eugonic Agar 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 dextrose 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.

Formula / Liter

Ingredients	Gms / Liter
Casein enzymic hydrolysate	15.00
Papaic digest of soyabean meal	5.00
Dextrose	5.00
Sodium chloride	4.00
Sodium sulphite	0.20
L-Cystine	0.20
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 44.4 grams of the medium in one liter of distilled water.

2. Heat to boiling, to dissolve the medium completely, with frequent agitation to avoid charring.
3. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.
4. 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.
5. 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 4.44% 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.	*Candida albicans ATCC 26790*	50 - 100	good	50-70%
3.	*Lactobacillus fermentum ATCC 9338*	50 - 100	good	50-70%
4.	*Neisseria meningitidis ATCC 13090*	50 - 100	good	50-70%
5.	*Streptococcus pneumonia ATCC 6303*	50 - 100	good-luxuriant (under 3-5% CO2)	>=70%
6.	*Streptococcus pyogenes ATCC 19615*	50 - 100	good-luxuriant (under 3-5% CO2)	>=70%

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

Test Procedure

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

Results

Refer appropriate references and procedures for interpretation of 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 Agar is not recommended as a blood agar base for hemolytic reactions because of its high sugar content.
2. It is suggested that Eugonic Agar be prepared as required. Do not melt and resolidify media containing enrichments.
3. Consult appropriate texts for detailed information and recommended procedures.

PRODUCT SPECIFICATION SHEET

Packaging
Product Name : Eugonic Agar
Product Code : DM106
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

For further information please contact your local MICROMASTER Representative.

MICROMASTER LABORATORIES PRIVATE LIMITED
Unit 38/39, Kalpataru Industrial Estate,
Off G.B. Road, Near 'R-Mall', Thane (W) – 400607. M.S. INDIA.
Ph: +91-9320126789/9833630009/9819991103
Email: sales@micromasterlab.com

DM106PSS,QAD/FR/024,Rev.00