Technical Information

Mutans-Sanguis Agar

Product Code: DM 1977

Application: - Mutans-Sanguis Agar is recommended for differentiation of *Streptococcus mutans* and *Streptococcus sanguis* associated with oral microflora.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	15.000
Yeast extract	5.000
L-Cvstine	0.200
Sodium sulphite	0.100
Sodium chloride	1.000
Disodium phosphate	0.800
Sodium bicarbonate	2.000
Sodium acetate	12.000
Sucrose	50.000
Agar	12.000
Final pH (at 25°C)	7.3±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Streptococcus mutans is gram-positive, facultatively anaerobic bacteria commonly found in dental plaque, in blood, on heart valves in subacute endocarditis, and infrequently in saliva and throat specimens. It is also a part of oral flora and preferentially colonizes the tooth surface [2]. They metabolize sucrose to lactic acid [1]. Sucrose is the only sugar that *S. mutans* can utilize. Mutans Sanguis Agar is recommended for differentiation of *S. mutans* and *S. sanguis.*

Casein enzymic hydrolysate, yeast extract and L-cystine in the medium provide nitrogen, vitamins and minerals necessary to support bacterial growth. Sodium sulphite, sodium acetate, disodium phosphate, and sodium bicarbonate are sources of ions that simulate metabolism. Mutans Sanguis Agar contains sucrose, which allows some species of Streptococci to produce characteristic colonies as a result of extracellular polysaccharide formation from this substrate. *S. mutans* forms rough, heaped, irregular colonies resembling frosted glass. Mostly crumbly, although whole colonies can be picked off the agar which are white, grey or yellow in colour and 0.5 - 2 mm in diameter, may produce a drop of liquid (water-soluble glucan) on top of the colony or a puddle of polysaccharide around the colony. *Streptococcus sanguis* forms smooth or rough, hard and rubbery colonies, which adhere strongly to the agar making them difficult to remove with a loop. They are grey, white or colourless, 1-3 mm in diameter. Some strains do not produce extracellular polysaccharide.

Methodology

Suspend 98.1 grams of powder media in 1000 ml distilled water. Shake well & heat to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and pour into Petri plates.

Quality Control

Physical Appearance
Cream to yellow homogeneous free flowing powder

Gelling
Firm, comparable with 1.2% Agar gel.

Colour and Clarity of prepared medium
Light yellow coloured clear to slightly opalescent gel forms in Petri plates

Reaction
Reaction of 9.81% w/v aqueous solution at 25°C. pH : 7.3±0.2

pH Range
7.10-7.50

Cultural Response/Characteristics
DM 1977: Cultural characteristics observed in presence of 10% CO2 + 90% H2, after an incubation at 35-37°C for 18-24 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony
Streptococcus mutans ATCC 25175	50-100	good-luxuriant	>=50%	grayish yellow
Streptococcus sanguinis ATCC 10556	50-100	good-luxuriant	>=50%	white, grey or colourless

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.
Prepared Media: 2-8^0 in sealable plastic bags for 2-5 days.

Further Reading

1. Loesche W. J., 1996, Microbiology of Dental Decay and Periodontal Disease. In: Barons Medical Microbiology (Baron S et al, eds.), 4th Ed., University of Texas Medical Branch
2. Hardie J. M., Whiley R. A., 1992, The genus Streptococcus in : Balows A., Truper H. G., Dworkin M., Harder W., Schleifer K. H., (Ed.), 1992, The Prokaryotes, A Handbook on the Biology of Bacteria : Ecophysiology, Isolation, Identification, Applications, 2nd Ed., Vol.II, Springer-Verlag, New York Inc.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate
- **Central Drug House Pvt. Ltd.** reserves the right to make changes to specifications and information related to the products at any time.
- Products are not intended for human or animal diagnostic or therapeutic use but for laboratory, research or further manufacturing of diagnostic reagents extra.
- Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.Donot use the products if it fails to meet specificatons for identity and performens parameters.