

## TM 2251 - MUTANS-SANGUIS AGAR

### INTENDED USE

For differentiation of *Streptococcus mutans* & *Streptococcus sanguis* associated with oral microflora.

### PRODUCT SUMMARY AND EXPLANATION

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

### COMPOSITION

Ingredients	Gms / Ltr
Casein enzymic hydrolysate	15.000
Yeast extract	5.000
L-Cystine	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

### PRINCIPLE

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.

### INSTRUCTION FOR USE

- Dissolve 98.1 grams in 1000 ml distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Mix well and pour into Petri plates.

### QUALITY CONTROL SPECIFICATIONS



**Appearance of Powder** : Cream to yellow homogeneous free flowing powder.  
**Appearance of prepared medium** : Light yellow coloured clear to slightly opalescent gel forms in Petri plates.  
**pH (at 25°C)** : 7.3±0.2

**INTERPRETATION**

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony	Incubation Temperature	Incubation Period
<i>Streptococcus mutans</i>	25175	50-100	Good-luxuriant	>=50 %	Grayish yellow	35-37°C	18-24 Hours
<i>Streptococcus sanguinis</i>	10556	50-100	Good-luxuriant	>=50 %	White, grey or colourless	35-37°C	18-24 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**

- 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
- 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.

 GMP Good Manufacturing Practices Certified	 IVD For In Vitro Diagnostic Use	 QTY. Quantity	 LOT/ B. NO. Lot / Batch Number	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 EC REP Authorized Representative	 CE European Conformity	 QR Code	 Consults Instructions for Use	 Best Before

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

**\*For Lab Use Only**  
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