

TM 035 - SNYDER TEST AGAR (BCG DEXTROSE AGAR)

INTENDED USE

For estimation of Lactobacilli, an indication of caries activity.

PRODUCT SUMMARY AND EXPLANATION

Dental caries results from microbial acid and plaque formation. Plaque sets the stage for caries because it collects the acid forming bacteria on the tooth surface, supplies an anaerobic environment for fermentation, traps the acids and excludes the protective saliva. Caries lesions are basically the outcome of chemical attack on the enamel and dentin. Demineralization of the tooth alternates with periods of re-mineralization. If demineralization exceeds re-mineralization, a subsurface carious lesion becomes a clinical cavity with extension of the decay into the dentine. For determining the rate and amount of acid produced by microorganisms in saliva, Snyder described a colorimetric method. The procedure makes use of an agar medium that is known as Snyder Test Agar. Later on Alban modified the procedure and reported it to be more accurate than the original procedure.

Snyder Test Procedure:

Collect specimens of saliva before breakfast, before brushing the teeth or just before lunch or dinner. Collect specimen of saliva in a sterile tube or bottle after patient chews paraffin for 3 minutes. Shake the specimen thoroughly and transfer 0.2 ml of this to a sterile Snyder Test Agar tube melted and cooled to 45°C. Mix the inoculum by rotating the inoculated tubes and incubate at 37°C for 72 hours in an upright position. The rate of acid production is graded as, marked for 24 hours, moderate and slight if colour changes within 48 and 72 hours respectively.

Incubation hours	Colour	Caries activity
24	Yellow	Marked
48	Greenish yellow	Moderate
72	Yellowish green	Slight

Alban Modified Test Procedure:

Collect the saliva specimen (unstimulated) to just cover the medium in the tube. When specimen collection is difficult, dip a sterile cotton swab into the saliva under the tongue or rub on tooth surfaces and place the swab just below the surface of the medium. Incubate the tubes at 35°C along with uninoculated control. Examine tubes daily for 4 days and compare the colour change with the control tube.

Record the results as:

No colour changes negative	: -
Colour beginning to change to yellow	: +
Half medium yellow	: ++
Three fourths of medium yellow	: +++
Total medium yellow	: ++++

The daily readings indicate the rapidity and amount of acid production. To establish a reference point at least two specimens collected within 2-4 days must be obtained.

COMPOSITION

Ingredients	Gms / Ltr
Peptone	20.000
Dextrose (Glucose)	20.000
Sodium chloride	5.000
Bromocresol green	0.020



Agar

20.000

PRINCIPLE

This is a differential medium based on the rate of acid production from dextrose, by oral acidogenic microorganisms from buccal cavity and is evidenced by a change in colour of the indicator - bromo cresol green from blue-green to yellow. Peptone provides carbon, nitrogen, long chain amino acids, vitamins and minerals. Dextrose is the carbohydrate source and bromo cresol green is the pH indicator.

INSTRUCTION FOR USE

- Dissolve 65.02 grams in 1000 ml distilled water.
- Heat to boiling to dissolve the medium completely.
- Dispense in 10 ml amounts into test tubes and sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Allow the tubes to cool in an upright position, do not overheat the medium.

QUALITY CONTROL SPECIFICATIONS

- Appearance of Powder** : Light yellow to greenish yellow homogeneous free flowing powder.
Appearance of prepared medium : Emerald green coloured, clear to slightly opalescent gel forms in tubes.
pH (at 25°C) : 4.8±0.2

INTERPRETATION

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Acid production	Incubation Temperature	Incubation Period
<i>Lactobacillus acidophilus</i>	314	50-100	Good-luxuriant	Positive reaction, yellow colour	35-37°C	24-72 Hours
<i>Lactobacillus casei</i>	9595	50-100	Good-luxuriant	Positive reaction, yellow colour	35-37°C	24-72 Hours
<i>Lactobacillus fermentum</i>	9338	50-100	Good-luxuriant	Positive reaction, yellow colour	35-37°C	24-72 Hours
<i>Staphylococcus aureus subsp. aureus</i>	25923	50-100	None-poor	Negative reaction, no colour changes	35-37°C	24-72 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.

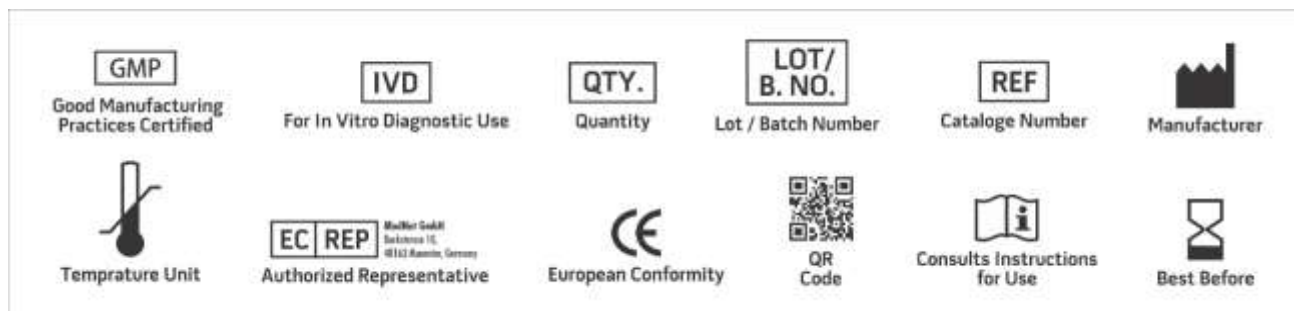
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. Alban, 1970, J. Dent. Res., 49:641.
2. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
3. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
4. Lewis and Ismail, 1995, Can. Med. Assoc. J., 152:836.
5. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams & Wilkins, Baltimore, Md.
6. Snyder, 1941, J. Dent. Res., 20:189.
7. Snyder, 1941, J. Am. Dent. Assoc., 28:44.



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

*For Lab Use Only
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