

Technical Data

Reuter's Sorbic Acid Agar Base

Intended Use:

Recommended for the isolation and differentiation of Lactobacilli from foodstuffs, faeces etc. **Composition****

Ingredients	g / L
Tryptone	10.000
HM extract #	10.000
Yeast extract	5.000
D-Glucose	20.000
Sodium acetate	5.000
Sodium citrate	3.000
Polysorbate 80 (Tween 80)	1.000
Magnesium sulphate heptahydrate	0.200
Manganese sulphate heptahydrate	0.050
Agar	16.000
Final pH (at 25°C)	5.0±0.1

**Formula adjusted, standardized to suit performance parameters

Equivalent to Meat extract

Directions

Suspend 35.06 grams of dehydrated medium in 500 ml distilled water. Heat to boiling to dissolve the medium completely. Cool to 45-50°C and aseptically add rehydrated contents of 1 vial of Sorbic Acid Supplement (FD236). Mix well and sterilize under mild conditions (30 minutes at 100°C). Mix well and pour into sterile Petri plates.

Principle And Interpretation

Lactobacillus is a genus of gram-positive facultative anaerobic bacteria. They are a major part of the Lactic acid bacteria group, named as such, because most of its members convert lactose and other sugars to lactic acid. In humans they are present in the vagina and the gastrointestinal tract, where they are symbiotic and make up a large portion of the gut flora. Some *Lactobacillus* species are used industrially for the production of yoghurt, sauerkraut, pickles, and other fermented foods, such as silage. Reuters Sorbic Acid Agar Base, described by Reuter (1,2) complies with German recommendations for food examination (3). The growth of Lactobacilli and Staphylococci is favoured by the broad spectrum of nutrients and by magnesium and manganese salts. Sorbic acid suppresses undesired accompanying bacteria (4,5). Enterococci, Pediococciand *Leuconostoc* grow to form microcolonies.

Type of specimen

Clinical samples - faeces; Dairy samples

Specimen Collection and Handling:

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (6,7). For dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (8,9). After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

In Vitro diagnostic Use. For professional use only. Read the label before opening the container. Wear protective gloves/ protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens.Safety guidelines may be referred in individual safety data sheets.

Limitations :

Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.
Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the medium for any specific microorganism other than mentioned in the COA based on the user's unique requirement.

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Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.6% Agar gel

Colour and Clarity of prepared medium

Dark amber coloured clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 7.0% w/v aqueous solution at 25°C. pH : 5.0±0.1

pН

4.90-5.10

Cultural Response

Cultural characteristics observed with added Sorbic Acid Supplement (FD236) under anaerbic condition or in 10% CO₂ atmosphere, after an incubation at 35-37°C for 18-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery
Lactobacillus acidophilus ATCC 4356 (00098*)	50-100	good	40-50%
Lactobacillus casei ATCC 9595	50-100	good	40-50%
Lactobacillus fermentum ATCC 9338	50-100	good	40-50%
Lactobacillus plantarum ATCC 8014	50-100	good	40-50%
Staphylococcus aureus subsp. aureus ATCC 25923 (00034*)	>=10 ⁴	inhibited	0%
Pseudomonas aeruginosa ATCC 27853 (00025*)	>=10 ⁴	inhibited	0%
Leuconostoc mesenteroides ATCC 9135	50-100	fair	20-30%

Key : *Corresponding WDCM numbers.

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (5,6).

Reference

1. Reuter G., 1968, Arch.f. Lebensmittelhyg., 19; 53-57 und 84-89

2. Reuter G., 1970, Fleischwirtsch., 954-962.

3. Bundesgesundheitsamt, Amtliche Sammlung von Untersuchungsverfahren nach § 35 LMBG. (06.00/31), June 1992, Beuth-Verlag: Berlin, Koln.

- 4. Emard L. O., Vaughn R. H., 1952, J. Bacteriol., 63:487-494.
- 5. Haenel H., Mueller-Beuthow W., 1957, Zbl. Bakt. I. Orig., 169;196-204.

6. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.

7. 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.

8. American Public Health Association, Standard Methods for the Examination of Dairy Products, 1978, 14th Ed., Washington D.C.

9. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.

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