



Reuter's Sorbic Acid Agar Base

M1626

Reuters Sorbic Acid Agar Base is used for the isolation and differentiation of Lactobacilli from foodstuffs, faeces etc.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	10.000
Meat extract	10.000
Yeast extract	5.000
D-Glucose	20.000
Sodium acetate	5.000
Sodium citrate	3.000
Tween 80	1.000
Magnesium sulphate, heptahydrate	0.200
Maganese sulphate, heptahydrate	0.050
Agar	16.000
Final pH (at 25°C)	5.0±0.1

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 35.06 grams of dehydrated medium in 500 ml distilled water. Heat to boiling to dissolve the medium completely. Cool to 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. They are common and usually benign. 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, Pediococci and *Leuconostoc* grow to form microcolonies.

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

pH

4.90-5.10

Cultural Response

M1626: Cultural characteristics observed with added Sorbic Acid Supplement (FD236) under anaerobic condition or in 10% CO₂ atmosphere, after an incubation at 35-37°C for 18-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery
<i>Lactobacillus acidophilus</i> ATCC 4356	50-100	good	40-50%
<i>Lactobacillus casei</i> ATCC 9595	50-100	good	40-50%
<i>Lactobacillus fermentum</i> ATCC 9338	50-100	good	40-50%
<i>Lactobacillus plantarum</i> ATCC 8014	50-100	good	40-50%
<i>Staphylococcus aureus</i> ATCC 25923	$\geq 10^3$	inhibited	0%
<i>Pseudomonas aeruginosa</i> ATCC 27853	$\geq 10^3$	inhibited	0%
<i>Leuconostoc mesenteroides</i> ATCC 9135	50-100	fair	20-30%

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

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, Köln.
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.

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