IFU

BAT Medium

Medium for the detection of Alicyclobacillus in Fruit Juices.

General Information

Alicyclobacilli are aerobe, gram-positive spore forming bacteria, whose optimum of growth is at low pH value and increased temperatures. Alicyclobacilli are spoilage organisms especially effecting the quality of fruit juices. (CERNY et al. 1984, BAUMGART und MENJE 2000).

The Medium complies with First Standard IFU-Method on the Detection of Alicyclobacillus in Fruit Juices (2003).

Mode of Action

The BAT Medium supports the growth of Alicyclobacilli.The low pH-value in combination with the high incubation temperature inhibit the contaiminating flora in growth.

Typical Composition (g/litre)

Yeast extract 2.0; D(+)glucose 5.0; Calcium chloride 0.25; Magnesium sulfate 0.5; Ammonium sulfate 0.2; Potassium-dihydrogenphosphate 3.0; Zinc sulfate 0.00018; Copper sulfate 0.00016; Manganese sulfate 0.00015; Cobalt-chloride 0.00018; Boric acid 0.00010; Sodium molybdate 0.00030; Agar-Agar 18.0.

Preparation

Dissolve 14.5 g in 500 ml of demin. water and heat to boiling until completely dissolved.

Note: The medium has a spontaneous pH of 5.3 ± 0.2 in order to maintain the gel strength during autoclavation. Adjustment of the pH to 4.0 ± 0.2 is made after the autoclavation.

Autoclave (15 min. at 121 °C).

Cool to 45-50 °C. Adjust the pH to 4.0 ± 0.2 by adding 1 N H_2SO_4. Mix well and pour into sterile Petridishes.

pH: 4.0 ± 0.2 at 25 °C.

The prepared medium is clear and yellowish.

Storage

The prepared plates can be stored for up to 2 weeks at 2-8 °C.

Keep protected from light and drying.

Application and Interpretation

Inoculate the medium by spreading 0.1 ml on the surface.

Membranefilter technique can be used with samples being filterable.

Incubation for 3-5 days at 45 ± 1.0 °C.

Count all colonies growing on the BAT Medium as suspicious Alicyclobacilli.

Confirm the suspicious colonies by further testing.

Literature

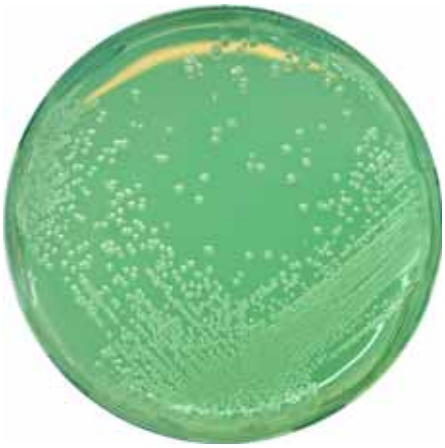
CERNY, G., W. HENNLICH und K. PORALLA. Fruchsaftverderb durch Bacillen: Isolierung und Charakterisierung des Verderbserregers. – Z Lebens Unters Forsch 179; 224 – 227 (1984).

BAUMGART, J. and S. MENJE. The Impact of Alicyclobacillus acidoterrestris on the Quality of Juices and Soft Drinks. FRUIT PROCESSING 7; 251 – 254 (2000).

IFU Working Group Microbiology. First Standard IFU-Method on the Detection of Alicyclobacillus in Fruit Juices. April 2003.

Ordering Information

Product	Ordering No.	Pack size
BAT Medium	1.07994.0500	500 g



Alicyclobacillus acidoterrestris DSMZ 2498

Quality control

Test strains	Growth
Alicyclobacillus acidocaldarius DSMZ 446	good
Alicyclobacillus acidoterrestris DSMZ 2498	good
Alicyclobacillus cycloheptanicus DSMZ 4006	good
Alicyclobacillus hesperidium DSMZ 12766	good
Staphylococcus aureus ATCC 25923	none
Escherichia coli ATCC 25922	none