TECHNICAL DATA SHEET

Article No. 8280

Raka-Ray Agar

SPECIFICATION

Solid selective medium used for the detection and isolation of lactic acid bacteria in the beer and brewing process.

Color: yellow
pH: 5.4 ± 0.2 at 25 ºC

COMPOSITION IN G/L

Tryptone	20.000
Maltose	10.000
Yeast extract	5.000
Fructose	5.000
Glucose	5.000
Potassium aspartate	2.500
Potassium glutamate	2.500
Betaine HCl	2.000
di-Ammonium citrate	2.000
Magnesiumsulfat 7H2O	2.000
di-Potassium phosphate	2.000
Liver peptone	1.000
Manganese sulphate.4H2O	0.660
N-Acetyl-glucosamine	0.500
Cycloheximide	0.007
Polysorbate 80	10.000
Agar	15.000
2-Phenylethanol	3.000

PACKAGING DETAILS

8280-10x200ML

Content:	200 ± 5	ml
Bottle size:	250	ml
Packaging unit:	10	Bottles

1 box with 10 bottles 250 ml. Injectable cap: Plastic screw inner cap + protective outer transparent cap.
The use of syringes needles with a diameter greater than 0.8 mm is not recommended.

GUIDELINES

Description:
The Raka-Ray culture medium was developed from the original formulation of Saha, Sondag and Middlekauff for the detection of lactic acid bacteria, such as lactobacilli as pediococci, which can alter the taste of beer during the process of production (Brewing). Nowadays this culture medium is included in routine microbiological analysis of the American Chemical Society Brewers (ASBC) and for a long time was also a recommended by the European Brewers Convention (EBC).
In comparative studies with other culture media of its category, Agar Raka-Ray has always given highest counts because it contains various nutrients and growth stimulants such as tryptone, liver peptone, yeast extract, acetylglucosamine, betaine and polysorbate. The carbon and energy source are provided by three sugars: glucose, fructose and especially maltose. Citrate and phosphate act as buffer and hold the acidity of the medium, whereas aspartate and glutamate are a supplement of amino acids for the peptones, which are the true source of nitrogen. Agar is the solidifying agent and the selectivity is obtained through the low pH of the medium and the addition of cycloheximide, which inhibits the growth of fungi and phenylethanol that inhibits the growth of gram-negative bacteria.

Technique:
To use, the contents of the bottle should be poured into plates. The melting of the culture medium should be carried out according to the manufacturer's instructions, either in a water bath (100ºC) or microwave oven. Never apply direct heat to melt a medium. The melting temperatures and times depend on the shape of the container, the volume of medium and the heat source. Before melting any medium loosen the screwcap of the container to avoid breaking the container. The medium should be melted only once and used. Media with agar should not be melted repeatedly as their characteristics change with each remelting. Overheating should be avoided as much as prolonged heating, especially with regard to media with an acidic or alkaline pH. Once melted pour the plates using aseptic techniques. To inoculate, follow standard laboratory methods or the applicable norms: spiral plate method, streak plating, econometric methods, dilution banks, spread plating etc...
Collect, dilute and prepare samples and volumes as required according to specifications, directives, official standard regulations and/or expected results.
Incubate the plates right side up at 25-30 ºC in an anaerobic (H_2/CO_2) atmosphere. The test strains need no longer than 48 hours of incubation but slower growing organisms may require up to 5-7 days.
After incubation, enumerate all the colonies that have appeared onto the surface of the agar.
Each laboratory must evaluate the results according to their specifications.

MICROBIOLOGICAL CONTROL

Melting - pour plates - inoculation Practical range 100 ± 20 CFU. min. 50 CFU (productivity) / 10^4-10^6 CFU (selectivity)

Microaerofilic incubation at 25-30 ºC for 72 ± 3h until 5 days

Microorganism	Growth
Saccharomyces cerevisiae ATCC® 9763, WDCM 00058	Inhibited
Escherichia coli ATCC® 8739, WDCM 00012	Inhibited - poor
Lactobacillus fermentum ATCC® 9338	Good. Cream/white coloured colonies .
Lactobacillus acidophilus ATCC® 4356, WDCM 00098	Good. Cream/white coloured colonies .
Pediococcus dammnosus ATCC® 29358, WDCM 00022	Good. Cream/white coloured colonies .

Sterility control:
Incubation 48 hours at 30-35 ºC and 48 hours at 20-25 ºC: NO GROWTH.
Check at 7 days after incubation in same conditions.

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STORAGE

8-25 °C

SHELF LIFE

16 months

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