

PP2135 RAKA-RAY AGAR PLATES

FORMULA

Yeast Extract	5.0	gm per litre
Tryptone	20.0	
Liver Concentrate	1.0	
Maltose	10.0	
Fructose	5.0	
Glucose	5.0	
Betaine HCL	2.0	
Diammonium Hydrogen Citrate	2.0	
Potassium Aspartate	2.5	
Potassium Glutamate	2.5	
Magnesium Sulphate 7H ₂ O	2.0	
Manganese Sulphate 4H ₂ O	0.66	
Potassium Phosphate	2.0	
N.Acetyl Glucosamine	0.5	
Agar	17.0	
Sorbiton Mono-Oleate	10.0	mL
Cycloheximide	0.007	gm
Phenylethyl Alcohol	3.0	



pH= 5.5 ± 0.2

* Formulation may be adjusted and/ or supplemented to meet performance criteria

DESCRIPTION (1)

Raka-Ray agar plates are based on the formula of Saha et al., and provide a medium for the cultivation of lactobacilli and other organisms of importance to the brewing process.

Members of the family *Lactobacillae* are important organisms in the brewing process as they can result in spoilage and affect flavour.

Raka-Ray agar was developed from Universal Beer Agar which was found to perform better when supplemented with sorbitan mono-oleate, liver extract, yeast extract and N-acetyl glucosamine. The addition of these to Universal Beer Agar reduced incubation time whilst increasing colony size and yield. The inclusion of sorbitan mono-oleate stimulates the growth of *Lactobacillus spp.*

A number of studies have demonstrated that Raka-Ray is superior to MRS for the isolation of brewing organisms and contaminants.

QUALITY CONTROL

ORGANISMS: *L. fermentans* MVQC 0109 (ATCC™ 9338), *E. aerogenes* MVQC 0013 (ATCC™ 13048), *Saccharomyces* "J" species MVQC 0070, *Pediococcus sp.* MVCC 1151.

SAMPLE NUMBER: Sample size is determined in accordance with ASM Guidelines (2).

STERILITY: Those plates not used for bacteriological testing and other quality assurance procedures must be incubated at 23°C for 7 days after which they are examined for sterility.

INOCULUM: *L. fermentans* and *Pediococcus* spp.: Plates are inoculated with a suspension containing approximately 10⁶ cfu/mL using a 2mm calibrated loop.

Saccharomyces spp. and *E. aerogenes* Plates are inoculated with 0.1 ml of a broth culture containing approximately 10⁸ cfu/mL.

INCUBATION: 5 days / 30°C / microaerophilic.

EXPECTED RESULTS:

<i>Lactobacillus</i> sp..	4 - 5+ Growth
<i>E. aerogenes</i>	<1+ inhibited
<i>Saccharomyces</i> sp.	<1+ inhibited
<i>Pediococcus</i> sp.	4 - 5+ Growth

ALSO CHECKED AND RECORDED

1. Batch number correct.
2. Colour
3. Clarity
4. Gel strength
5. Final pH 5.5 ± 0.2
6. Sterility
7. Correctly labelled: RAKA RAY

STORAGE

A shelf life of 8 weeks applies when this product is stored at 2° - 8°C in its original packaging.

Store plates away from direct sunlight and overhead lighting

REFERENCES

1. Bridson, E.Y. The Oxoid Manual, 9th Edition. 2006. Oxoid Limited, Basingstoke.
2. *Guidelines for Assuring Quality of Medical Microbiological Culture Media*. 2nd edition 2012. Culture Media Special Interest Group, Australian Society for Microbiology