

## Raka-Ray Agar Base

Product No.	Product Category	Specification
HCM120	Dehydrated Culture Medium	500g/bottle

### Intended Use

For the detection of lactic acid bacteria in beer and for monitoring inprocess beer quality.

### Principle and Interpretation

Yeast extract , tryptone, and liver concentrate , as well as N-acetyl glucosamine, provide nitrogen sources, vitamins, and growth factors. Maltose, fructose, and dextrose are fermentable sugars. Betaine hydrochloride, diammonium hydrogen citrate, and potassium phosphate act as buffers. Potassium aspartate and potassium glutamate supply aspartic acid and glutamic acid. Magnesium sulfate and manganese sulfate supply cations, which are beneficial to the growth of lactic acid bacteria. Agar is a solidifying agent for the culture medium. Additionally, the supplementary reagent 2-phenylethanol added inhibits Gram-negative bacteria, and cycloheximide inhibits yeasts and molds.

### Formulation

Ingredients	/liter
Yeast Extract	5.0 g
Tryptone	20.0 g
Liver Concentrate	1.0 g
Maltose	10.0 g
Fructose	5.0 g
Dextrose	5.0 g
Betaine hydrochloride	2.0 g
Diammonium Hydrogen Citrate	2.0 g
Potassium Aspartate	2.5 g
Potassium Glutamate	2.5 g
Magnesium Sulphate	0.98 g
Manganese Sulphate	0.42 g
Potassium Phosphate	2.0 g
N-Acetyl Glucosamine	0.5 g
Agar	17.0 g
pH5.4±0.2 at 25°C	

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# Technical Data Sheet



## Preparation

1. Weigh 75.9 g of the dry powder of this product, add 1 L of distilled water or deionized water, stir and heat to boil until it is completely dissolved. Then add 10 ml of Tween-80 and 10 vials of accessory reagent A for SR0510 (each vial needs to be dissolved in 1 ml of deionized water first), and sterilize at 121°C for 15 minutes.
2. When the culture medium cools down to around 50 °C, aseptically add 10 vials of accessory reagent B for SR0510 into the culture medium, and mix well for later use.
3. Transfer 0.1 mL of the beer sample to the plate, and then add 15 - 17 mL of RAKA-RAY AGAR. Wait until the culture medium solidifies.
4. Turn the plate upside down and place it in a constant temperature incubator. Incubate at  $36 \pm 1$  °C for 18 - 24 hours; then observe the results.

## Quality Control

Cultural characteristics observed after incubation at 35-37°C for 18-24 hours

Quality control strains	Approx. Inoculum(CFU)	Recovery	Characteristics
<i>Lactobacillus brevis</i> ATCC14869	10 – 100	PR $\geq$ 0.5	Cream-colored colonies
<i>Pediococcus acidilactici</i> CICC20791	10 – 100	PR $\geq$ 0.5	Cream-colored colonies
<i>Saccharomyces cerevisiae</i> ATCC9763	> 10 <sup>4</sup>	G $\leq$ 1	-
<i>Escherichia coli</i> ATCC25922	> 10 <sup>4</sup>	G $\leq$ 1	-

## Storage and Shelf Life

2-30°C, keep container tightly closed, avoid direct sunlight.

Use before expiry date on the label.

## Precautions

1. When weighing the dehydrated medium, please wear masks to avoid causing respiratory system discomfort
2. Keep container tightly closed after using to prevent clumping.

## Waste Disposal

Microbiological contamination was disposed by autoclaving at 121°C for 30 minutes.

## Revision

On June 14, 2024

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## References

1. Saha R. B., Sondag R. J. and Middlekauff J. E. (1974) Proceedings of the American Society of Brewing Chemists, 9th Congress, 1974.
2. Methods of Analysis of the ASBC (1976) 7th Edition. The Society, St. Paul. Mn. USA.

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