SARTORIUS

Product Information

R2A Biosart® 100 Nutrient Media

Introduction

R2A is a low-nutrient medium specifically formulated for the enumeration of heterotrophic organisms in treated potable water and highly purified water. It is designed to support microorganisms that have adapted to the unique conditions of nutrient-poor water environments. This medium is intended for cultivating microorganisms in various water types, including pharmaceutical-grade water, general quality water, wastewater, and other products. The combination of low nutrient content, reduced incubation temperature, and extended incubation time allows stressed microorganisms to grow without being outcompeted by fast-growing species.

Dextrose serves as an energy source, while starch absorbs toxic metabolic byproducts, and potassium hydrogen phosphate stabilizes the pH value. This environment enables the recovery of various injured or stressed microorganisms, allowing their numbers to be detected as colony-forming units (CFU) per volume in the sample. Stressed and chlorine-tolerant bacteria are stimulated by this medium in combination with lower incubation temperatures and longer incubation time.

Technical Specifications

Order No.	16400-02----RA-K (50 units)
Media	R2A
Color	Transparent
Storage	Refrigerate (2 - 8 °C) after arrival*, dark and dry, use before expiry date on the label
Shelf Life	12 months
For Use With	Biosart® 100 Monitor (16402) with green membrane filter and dark green grid, 0.45 µm

* Data have shown constant performance in microbiological tests after storage at 22 °C for 14 days.

Media Formulation**

Ingredients	g/L
Meat peptone	0.5
Yeast extract	0.5
Casamino acids	0.5
Glucose	0.5
Starch	0.5
Dipotassium hydrogen phosphate	0.3
Magnesium sulfate	0.05
Sodium pyrovate	0.3
Water (AP-Quality)	Ad 1,000 mL

pH 7.2 ± 0.25 (at room temperature)
** Formula adjusted, standardized to suit performance parameters.

Instructions

The Biosart® 100 Monitor is a sterile, ready-to-use disposable unit featuring an integrated membrane filter and cellulose pad. After filtration, add the Biosart® 100 Nutrient Media from the ampoule and apply vacuum for 1 second. Remove the disposable unit from the manifold and seal the outlet. Finally, detach the funnel and close the lid to transform the monitor into a petri dish.

Incubation Conditions

≤ 3 days, or for yeasts and molds ≤ 5 days at 30 - 35 °C.

Evaluation and Typical Results

Predominantly bacteria grow on this medium. Their colonies are of different size and color, most of them are white or colorless.

Microbiological Quality Control

Sterility: Qualitative
Incubation conditions: 14 days at 30 - 35 °C
Specification: No growth or turbidity

Productivity: Quantitative
Inoculum: 50 - 150 CFU
Incubation conditions: ≤ 3 days, or for yeasts and molds ≤ 5 days at 30 - 35 °C
Specification: ≥ 85% membrane filtration on control agar as reference

Microorganism	Test strain	Specification	Morphology
Pseudomonas aeruginosa	WDCM 00026	$P_R \geq 0.85$	Colonies beige and glossy
Bacillus subtilis	WDCM 00003	$P_R \geq 0.85$	Beige colonies, matt, wrinkled
Escherichia coli	WDCM 00012	$P_R \geq 0.85$	Colonies beige and glossy
*Staphylococcus aureus***	WDCM 00032	$P_R \geq 0.85$	Yellow colonies
*Candida albicans****	WDCM 00054	$P_R \geq 0.85$	Cream-colored colonies
Tap water***	N/A	$P_R \geq 0.85$	Beige, yellow, bright red colonies

*** Tested on a regular basis.
P_R Productivity Ratio

Specificity: Qualitative
Inoculum: 10^3 CFU
TSA spread plate as control

Microorganism	Test strain	Specification | Morphology
*Aspergillus brasiliensis****	DSM 1988	Strong growth, black-haired colonies

*** Tested on a regular basis.

The incubation conditions recommended by Sartorius can be adjusted based on the type of samples, in accordance with the reference standards or customer requirements. Descriptions of typical results illustrate the usual appearance of the specified microorganisms. However, in certain cases, the color and shape of the colonies may differ from the expected appearance. Additional tests may be required to confirm the results. Sartorius shall not be liable for any consequential or incidental damages incurred by customers from the use of its products.

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