

# R2A Broth

Medium used for the cultivation and enumeration of heterotrophic organisms from water samples.

## • CONTENTS (Liter)

Casamino Acid Hydrolysate	0.5 g
Yeast Extract	0.5 g
Proteose Peptone	0.5 g
Dextrose	0.5 g
Soluble Starch	0.5 g
Dipotassium Phosphate	0.3 g
Magnesium Sulfate	0.05 g
Sodium Pyruvate	0.3 g
Final pH = 7.2 ± 0.2 at 25°C	

## • PROCEDURE

Suspend 3.15 G of powder in 1 L of distilled or deionized water. Heat to boiling until completely dissolved. Sterilize by autoclave at 121°C for 15 minutes. Cool to 45 - 50°C in water bath. Mix well. Pour into tubes.

## • INTERPRETATION

R2A Broth is a medium used for the cultivation and enumeration of heterotrophic organisms from water samples. Casamino acid hydrolysate and proteose peptone provide nitrogen, carbon, amino acids and minerals. Yeast extract provides vitamins. Dextrose is a carbohydrate. Soluble starch neutralizes toxic metabolic by products. Dipotassium phosphate is the buffering agent. Magnesium sulfate is a cofactor for many metabolic reactions. Sodium pyruvate provides the recovery of stressed cells.

## • TECHNIC

Inoculate the specimen using a sterile needle to the medium. Incubate at 36 ± 1°C for 24 - 72 hours. Loosening the caps may be helpful to cultivate organisms. Refer appropriate references for recommended test procedure.

## • QUALITY CONTROL FOR USE

### Dehydrated medium

Appearance: free-flowing, homogeneous

Color: light beige

### Prepared medium

Appearance: clear to slightly opalescent

Color: cream to colorless

Incubation conditions: 36 ± 1°C / 24 - 72 hours

Microorganism	ATCC	Inoculum CFU	Growth
<i>Enterococcus faecalis</i>	29212	50-100	good
<i>Escherichia coli</i>	25922	50-100	good
<i>Pseudomonas aeruginosa</i>	27853	50-100	good
<i>Staphylococcus aureus</i>	25923	50-100	good
<i>Salmonella enteritidis</i>	NCCP 12236	50-100	good

## • STORE

The powder is very hygroscopic. Store the powder at room temperature, in a dry environment, in its original container tightly closed and use it before the expiry date on the label. Store prepared medium at 2 - 8°C.

## • REFERENCES

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5. Kelly, Justice and Nagy. 1983. Abstr. Q122, p. 280. Abstr. 83rd Annu. Meet. Am. Soc. Microbiol. 1983.
6. Eaton, Rice and Baird (ed.). 2005. Standard methods for the examination of water and wastewater, 21st ed., online. American Public Health Association, Washington, D.C.
7. Kim and Feng. 2001. In Downes and Ito (ed.), Compendium of methods for the microbiological examination of foods, 4th ed. American Public Health Association, Washington, D.C.
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## • PACKAGE

Cat. No : MB-R2230 R2A Broth	500 G
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