



R-2A AGAR

TM 269

INTENDED USE

For heterotrophic plate count of treated potable water using longer incubation time.

COMPOSITION

Ingredients	Gms/Ltr
Agar	15.000
Casein acid hydrolysate	0.500
Yeast extract	0.500
Dextrose	0.500
Proteose peptone	0.500
Starch, soluble	0.500
Di-potassium hydrogen phosphate	0.300
Sodium pyruvate	0.300
Magnesium sulphate	0.024

PRODUCT SUMMARY AND EXPLANATION

R-2A AGAR was formulated by Reasoner and Geldreich for heterotrophic plate count of treated potable water. It is recommended in standard methods for pour plate, spread plate, and membrane filter methods for heterotrophic plate counts. Nutritionally rich media support the growth of fast growing bacteria which may suppress slow growing and/or stressed bacteria found in treated water. R-2A agar being low in nutrition, also helps to stimulates the growth of stressed and chlorine-tolerant bacteria at lower incubation temperature and longer incubation period.

PRINCIPLE

Casein acid hydrolysate, proteose peptone and yeast extract serve as carbon, nitrogen, vitamins, trace elements and minerals sources in the medium. Dextrose serves as a fermentable carbohydrate source. Soluble starch supports the recovery of injured organisms by absorbing toxic metabolic by-products. Dipotassium phosphate is used to balance the pH. Magnesium sulphate is a source of divalent cations and sulphate. Sodium pyruvate increases the recovery of stressed cells. Agar is the solidifying agent.

INSTRUCTION FOR USE

1. Suspend 18.12 grams in 1000 ml distilled water.
2. Warm gently to dissolve the medium completely.



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3. Sterilize by autoclaving at 15 psi (121°C) for 15 minutes.
4. Cool at 40 - 50°C and dispense into sterile tubes.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder: Cream to yellow colour, homogeneous free flowing powder

Appearance of prepared medium: Light Yellow coloured, clear to slightly opalescent gel

pH (at 25°C): 7.2±0.2

INTERPRETATION:

Cultural characteristics observed after inoculation of 50-100 CFU, on incubation at 30- 35°C for 24-72 hours.

Microorganisms	ATCC	Inoculum (CFU/ml)	Growth	Recovery
<i>Enterococcus faecalis</i>	29212	50-100	Luxuriant	≥50%
<i>Escherichia coli</i>	25922	50-100	Luxuriant	≥50%
<i>Escherichia coli</i>	8739	50-100	Luxuriant	≥50%
<i>Staphylococcus aureus</i>	25923	50-100	Luxuriant	≥50%
<i>Staphylococcus aureus</i>	6538	50-100	Luxuriant	≥50%
<i>Salmonella typhi</i>	6539	50-100	Luxuriant	≥50%
<i>Salmonella enteritidis</i>	13076	50-100	Luxuriant	≥50%
<i>Pseudomonas aeruginosa</i>	27853	50-100	Luxuriant	≥50%
<i>Bacillus subtilis</i>	6633	50-100	Luxuriant	≥50%
<i>Candida albicans</i>	10231	50-100	Luxuriant	≥50%

STORAGE & STABILITY

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers below 25°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

REFERENCES

1. VanSoestberger, A.A. and Lee, C.H. 1969. Appl. Microbiol. 18: 1092
2. Klein, D.A. and Wu, S. 1974. Appl. Microbiol. 27: 429-431.



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3. Reasoner, D.J. and Geldreich, E.E. 1985. Appl. Environ. Microbiol. 49: 1-7.
4. Means, E.G., Hanami, L., Ridgway, H.F., Olson, B.H. 1981. Journal AWWA. 53: 585-590.
5. Fiksdal, L., Vik, E.A., Mills, A., Staley, T. 1982. Journal AWWA. 74: 313-318.
6. Kelly, A.J., Justice, C.A., Nagy, L.A. 1983. Annual Meeting of the American Society for Microbiology, 79th Meeting, Paper No. Q122.
7. Eaton, A.D., Clesceri, L.S., Greenberg, A.E., (Eds.). 1995. Standard methods for the examination of water and wastewater, 19th ed., American Public Health Association, Washington, D.C.


Certification of
Good Manufacturing Practices


Quantity


Lot / Batch Number


Temperature Unit


Best Before




Catalogue No.


Consults Instructions for use :


Manufacturer

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

***For professional use only.**
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