

APT AGAR

Medium for the cultivation and enumeration of heterofermentative lactobacilli

TYPICAL FORMULA (g/L)

Casein Peptone	12.50
Yeast Extract	7.50
Dextrose	10.00
Sodium Chloride	5.00
Sodium Citrate	5.00
Dipotassium Phosphate	5.00
Magnesium Sulfate	0.80
Manganese Chloride	0.14
Ferrous Sulfate	0.04
Thiaminium Dichloride	0.001
Agar	14.00
Final pH 6.7 ± 0.2	

DESCRIPTION

APT AGAR is used for the cultivation of heterofermentative lactobacilli that produce greening of cured meat products and that can elaborate H₂O₂ during the growth in aerobic conditions. These media are also used for the conservation and preparation of the *Weissella viridescens* ATCC 12706 strain, which is the test organism in the microbiological assay of thiamine according to the method described by Deibel et al. A.P.H.A. recommends the use of APT AGAR for the detection of lactobacilli in foodstuffs.

PRINCIPLE

APT AGAR contain peptone as a source of carbon, nitrogen, vitamins, and minerals. Yeast extract supplies B-complex vitamins which stimulate bacterial growth. Dextrose is the carbohydrate. The manganese chloride, magnesium sulfate and ferrous sulfate provide ions used in replication by lactobacilli. Tween 80 is a source of fatty acids required by lactobacilli. Agar is the solidifying agent.

PREPARATION

Suspend 60 g of the powder in 1 liter of distilled or deionized water. Add 0.2 g Tween 80 (Code 80031). Autoclave at 121 °C for 15 minutes. Cool till about 50 °C. Dispense into Petri dishes.

For the detection of H₂O₂ producing strains, to 100 ml of APT AGAR add 10 ml of 10% MnO₂ suspension in APT Broth.

Distribute 15 ml base layer of APT AGAR w/o MnO₂, leave the medium to solidify and add 15 ml of a surface layer of APT with MnO₂.

TECHNIQUE

The technique suggested is the standard plate count recommended by APHA. Incubate at 21-32 °C for 3-6 days, according to the material to be tested. The presumptive diagnosis of the presence of lactobacilli should be confirmed by microscopic and biochemical examinations.

For maintaining stock cultures of *Weissella viridescens* ATCC 12706 prepare a stab inoculation. Prepare stock cultures in triplicate at monthly intervals.

One of the transfers is saved for the preparation of stock cultures. The others are used to prepare inoculum in APT Broth for assay as needed.

Following incubation at 35-37 °C for 24-48 hours, store stock cultures at 2-8 °C.

INTERPRETATION OF RESULTS

H₂O₂ producing lactobacilli grow with colonies surrounded by a transparent halo.

STORAGE

The powder is very hygroscopic: store the powder at 10-30 °C, in a dry environment, in its original container tightly closed until the expiry date indicated on the label or until signs of deterioration or contamination are evident.

Store prepared media at 2-8 °C.

WARNING and PRECAUTIONS

The product is not classified as hazardous by current legislation and does not contain harmful substances in concentrations of ≥1%.

The product must be used only by properly trained operators.

DISPOSAL of WASTE

Disposal of waste must be carried out according to national and local regulations in force.

REFERENCES

1. APHA (1966)- Recommended Methods for the Microbiological Examination of Foods. 2nd
2. D'Aubert S. (1963) Ann. Microbiol., 8, 189
3. Deibel, R.H., Evans, J.B. & Niven, C.P. Jr. (1957)- J. Bact., 74, 818-821
4. Niven, C.F. Jr. & Evans, J.B. (1957)-J. Bact., 73, 758-759



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PRODUCT SPECIFICATIONS

NAME

APT AGAR

PRESENTATION

Dehydrated culture medium

STORAGE

10-30 °C

PACKAGING

Code	Content	Packaging
610300	500 gr	500 gr of powder in plastic bottle
620300	100 gr	100 gr of powder in plastic bottle

pH OF THE MEDIUM

6.7 ± 0.2

USE

Medium for the cultivation and enumeration of heterofermentative lactobacilli.

TECHNIQUE

Refer to technical sheet of the product.

APPEARANCE OF THE MEDIUM

Dehydrated medium

Appearance: free-flowing, homogeneous.

Colour: light beige.

Prepared medium

Appearance: clear to slightly opalescent, may have a slight precipitate.

Colour: amber.

SHELF LIFE

4 years

QUALITY CONTROL

- Control of general characteristics, label and print
- Sterility control

7 days at 25 ± 1°C, in aerobiosis

7 days at 36 ± 1°C, in aerobiosis

- Microbiological control







Inoculum for productivity: 10-100 CFU/ml

Inoculum for specificity: ≤ 10⁴ CFU/ml

Incubation conditions: APT AGAR + MnO₂, 30 °C for 5 days.

Microorganisms		Inoculum CFU	Recovery	Trasparent halo
<i>Weissella viridescens</i>	ATCC 12706	10 ² -10 ³	Good	+
<i>Lactobacillus brevis</i>	ATCC 14869	10 ² -10 ³	Good	+
<i>Lactobacillus sakei</i>	ATCC 15521	10 ² -10 ³	Good	-
<i>Leuconostoc mesenteroides</i>	ATCC 9135	10 ² -10 ³	Good	-
<i>Pediococcus damnosus</i>	ATCC 29358	10 ² -10 ³	Good	-

TABLE OF SYMBOLS

LOT Batch code	 Temperature limitation	 Manufacturer	 Contains sufficient for <n> tests
REF Catalogue number	 Keep away from heat	 Use by	 Caution, consult accompanying documents



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