SIGMA-ALDRICH®
sigma-aldrich.com
3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

10825 APT Agar (All Purpose Tween

For enumeration and cultivation of heterofermentative lactic acid bacteria including Lactobacilli, Leuconostocs and lactic acid streptococci as well as other microorganisms with high requirements for thiamine in meat products, tinned foods, fruit juices and other foodstuffs. The medium is recommended by the "Schweizerisches Lebensmittelbuch" 5th ed., chapter 56A and the American Public Health Association (1992).

Composition:

Ingredients	Grams/Litre
Peptone	12.5
Yeast extract	7.5
D(+)-Glucose	10.0
Sodium citrate	5.0
Thiamine hydrochloride	0.001
Sodium chloride	5.0
Dipotassium hydrogen phosphate	5.0
Manganese (II) chloride	0.14
Magnesium sulfate	0.8
Ferrous sulfate	0.04
Agar	13.5

Final pH 6.7+/- 0.2 at 25 °C

Store prepared media below 8 °C, protected from direct light. Store dehydrated powder in a dry place in tightly-sealed containers at 2-25 °C.

Directions:
Dissolve 59.5 g in 1 litre distilled water. Add 0.1 g Actidione (Cat.No. 01810) dissolved in a minimum amount of 40% ethanol, and 0.2 ml Tween 80 (Cat. 93780). Sterilize by autoclaving at 121°C for 15 minutes.
For enumeration, dilute the sample material and inoculate the APT Agar by the pour-plate method. Incubate for 2 days at 35°C aerobically. For identification of bacteria that cause greening of meat products, inoculate with the suspect colonies. After incubation, transfer a sample from the culture onto the cut surface of a smoked sausage. Place the sausage in a petri dish containing a wet piece of filter paper ("moist chamber"). Incubate for 18-24 hours at 32°C and observe if there is a green coloration. A sample of the sausage which has not been inoculated serves as a control. In order to exclude other pigment-forming bacteria (e.g. *Pseudomonas*), a verifying test (e.g. Gram-positive test, negative catalase test, negative nitratase test, positive peroxidase test, acetoin production from glucose, ammonia production from arginine, etc.) should be performed.

Principle and Interpretation:
This medium is rich due to nutrients like peptone, yeast extract, D(+)-glucose and Tween 80. This base provides optimal growth conditions for Lactobacilli, Leuconostocs and lactic acid streptococci. The cycloheximide makes the medium more selective. The metallic salts are essential for the replication of Lactobacilli and lactic acid streptococci. Tween 80 acts as a fatty acid source.

Cultural characteristics after 18-24 hours at 35 ºC.

Organisms (ATCC)	Recovery
Lactobacillus viridescens (12706)	+++
Lactobacillus acidophilus (4356)	+++
Leuconostoc mesenteroides (12291)	+++
Lactococcus lactis ssp. lactis (19435)	+++

References:

1. American Public Health Association, Compendium of Methods for the Microbiological Examination of Foods, 3rd ed. (1992)
2. H. Korkeala and S. Lindroth, Microbial growth on the surface and at the centre of vacuum-packed cooked sausage, Int. J. Food Microbiol., 4, 105 (1987)
3. R.H. Deibel, J.B. Evans and C.F. Niven, Microbiological assay for thiamine using Lactobacillus viridescens, J. Bact., 74, 818 (1957)
4. J.B. Evans and C.F. Niven, Nutrition of the heterofermentative Lactobacilli that cause greening of cured meat products, J. Bact., 62, 599 (1951)

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.