LICKSON®

CE

TECHNICAL SHEET

CETRIMIDE (PSEUDOMONAS) AGAR

IVD in Class A, EU Reg. 2017/746
For in vitro diagnostic use **IVD**

Cetrimide (Pseudomonas) Agar is used for the selective isolation and identification of Pseudomonas aeruginosa.

DESCRIPTION

King et al. developed Medium A (Tech Agar) for the enhancement of pyocyanin production by Pseudomonas. Cetrimide (Pseudomonas) Agar has the formula for Tech Agar but is modified by the addition of cetrimide (cetyl trimethyl ammonium bromide) for the selective inhibition of organisms other than P. aeruginosa.
In 1951, Lowbury described the use of 0.1% cetrimide in a selective medium for P. aeruginosa. Because of the increased purity of the inhibitory agent, the concentration was later reduced, as reported by Lowbury and Collins in 1955. Brown and Lowbury employed incubation at 37°C with examination after 18 and 42 hours of incubation. Strains of P. aeruginosa are identified from specimens by their production of pyocyanin, a blue, water-soluble, nonfluorescent, phenazine pigment in addition to their colonial morphology and the characteristic grapelike odor of aminoacetophenone. P. aeruginosa is the only species of Pseudomonas or gramnegative rod known to excrete pyocyanin. Cetrimide (Pseudomonas) Agar, therefore, is a valuable culture medium in the identification of this organism. Cetrimide (Pseudomonas) Agar is widely recommended for use in the examination of cosmetics, clinical specimens for the presence of P. aeruginosa, as well as for evaluating the efficacy of disinfectants against this organism. It is also used in the microbiological examination of nonsterile pharmaceutical products for Pseudomonas aeruginosa.

PRINCIPLE

Gelatin peptone supplies the nutrients necessary to support growth. The production of pyocyanin is stimulated by the magnesium chloride and potassium sulfate in the medium. Cetrimide is a quaternary ammonium, cationic detergent compound, which is inhibitory to a wide variety of bacterial species including Pseudomonas species other than P. aeruginosa. Agar is a solidifying agent. Cetrimide Agar Base is supplemented with 1% glycerol as a source of carbon.

COMPOSITION	g/L
Pancreatic Digest of Gelatin	20.0
Magnesium Chloride	1.4
Potassium Sulfate	10.0
Cetrimide (Tetradecyltrimethylammonium Bromide)	0.3
Agar	13.6

Final pH 7,2 ± 0,2 at 25°C

WARNING AND PRECAUTIONS

For in vitro diagnostic use.
Observe the precautions normally taken when handling laboratory reagents.
Dehydrated medium: HIGHLY HYGROSCOPIC. During the handling, wear dust protection mask. Avoid the eye contact. Do not use beyond the expiration date or if the product shows signs of deterioration, an altered color or has compacted.
Prepared Medium: The product does not contain hazardous substances in concentrations exceeding the limits set by current legislation and therefore is not classified as dangerous.
Safety Data Sheet is available on request for professional users.
All wast must be disposed of according to local directives.

STORAGE AND STABILITY	
Dehydrated medium:	10-30°C
Prepared medium:	10-25°C

The product is stable until the expiration date indicated on the label under the recommended storage conditions.

PREPARATION

Dehydrated medium: Suspend 45.3 g of the powder in 1 L of purified water containing 10 mL of glycerol. Mix thoroughly. Heat with frequent agitation and boil for 1 minute to completely dissolve the powder. Autoclave at 121°C for 15 minutes.
Prepared medium (bottles): Melt the content of the bottle in a water bath at 100°C until completely dissolved. Then screw the cap and check the homogeneity of the dissolved medium, if it is the case turning the bottle upside down. Cool at 45-50°C, mix well avoiding foam formation and aseptically distribute into Petri dishes.

PROCEDURE

Use standard procedures to obtain isolated colonies from specimens. Incubate plates in an inverted position (agar side up) at 35 ± 2°C for 18-48 hours.
Refer to USP General Chapters and for details on the examination of nonsterile products and tests for isolating Pseudomonas aeruginosa using Cetrimide Agar.

RESULTS

Colonies that are surrounded by a blue-green pigment and fluoresce under short wavelength (254 nm) ultraviolet light may be presumptively identified as Pseudomonas aeruginosa.
Note, however, that certain strains of P. aeruginosa may not produce pyocyanin. Other species of Pseudomonas do not produce pyocyanin, but fluoresce under UV light. Most non-Pseudomonas species are inhibited, and some species of Pseudomonas may also be inhibited. Gram staining, biochemical tests and serological procedures should be performed to confirm findings.
Pigment production along with a positive oxidase reaction typically identify P. aeruginosa.

QUALITY CONTROL

Dehydrated medium: Beige, free-flowing, homogeneous.
Prepared medium: Light amber, opalescent, with precipitate.

Typical response after incubation at 35±2°C for 18-48 hours, in aerobiosis

MICROORGANISM	GROWTH/COLONIES
Pseudomonas aeruginosa ATCC 27853	Good/Yellow-green to blue
Escherichia coli ATCC 25922	Inhibited

REFERENCES

1. United States Pharmacopeial Convention, Inc. 2008. The United States pharmacopeia 31/The national formulary 26, Supp. 1, 8-1-08, online. United States Pharmacopeial Convention, Rockville, Md.
2. European Directorate for the Quality of Medicines and Healthcare. 2008. The European pharmacopoeia, 6th ed., Supp. 1, 4-1-2008, online. European Directorate for the Quality of Medicines and Healthcare, Council of Europe, 226 Avenue de Colmar BP907-, F-67029 Strasbourg Cedex 1, France.
3. Japanese Ministry of Health, Labour and Welfare. 2006. The Japanese pharmacopoeia, 15th ed. online. Japanese Ministry of Health, Labour and Welfare.
4. King, Ward, and Raney. 1954. J. Lab. Clin. Med. 44 :301.
5. Lowbury. 1951. J. Clin. Pathol. 4 :66.
6. Lowbury and Collins. 1955. J. Clin. Pathol. 8 :47.
7. Brown and Lowbury. 1965. J. Clin. Pathol. 18 :752.
8. Blondel-Hill, Henry and Speert. 2007. In Murray, Baron, Jorgensen, Landry and Pfaller (eds.), Manual of clinical microbiology, 9th ed. American Society for Microbiology, Washington, D.C.
9. Gilardi. 1991. In Balows, Hausler, Herrmann, Isenberg and Shadomy (eds.), Manual of clinical microbiology, 5th ed. American Society for Microbiology, Washington, D.C.
10. Hitchins, Tran, and McCarron. 2001. In FDA bacteriological analytical manual online, 8th ed. http:// www.cfsan.fda.gov/~ebam/bam-23.html.
11. Forbes, Sahm, and Weissfeld. 2007. Bailey & Scott's diagnostic microbiology,
12th ed. Mosby Elsevier, St. Louis, Mo. 12. Horwitz, (ed). 2002. AOAC Official Method 955.13. Official methods of analysis of AOAC International, 17th ed, vol. 1, Rev. 1. AOAC International, Gaithersburg, Md.
13. MacFaddin. 1985. Media for isolation-cultivation-identification-maintenance of medical bacteria, vol. 1. Williams & Wilkins, Baltimore, Md.
14. Goto and Enomoto. 1970. Jpn. J. Microbiol. 14 :65.

LICKSON®

CE

TECHNICAL SHEET

PRESENTATION	Packaging	REF.
Dehydrated medium:		
CETRIMIDE (PSEUDOMONAS) AGAR BASE		
	100 g	**11039**
	500 g (11.1 lt)	**10039**
Supplement:		
GLYCEROL		
	1 x 200 mL bottle	**16038**
Prepared medium:		
CETRIMIDE (PSEUDOMONAS) AGAR		
	6 x 100 mL bottles	**63319**
	20 pcs (60 mm ready-to-use plates)	**2515028/20**
	20 pcs (90 mm ready-to-use plates)	**2504927/20**

SYMBOLS

Read the instructions

Biological hazard

CE Mark (product complies with the requirements of Regulation (EU) 746/2017)

Temperature limitation

Use by

IVD **For in vitro diagnostic use**

Manufacturer