FLN K200

PRINCIPLE / DISCUSSION:

Key FLN agar tablets will demonstrate three separate properties of non-fermentative Gram-negative bacilli: fluorescence, acidification of lactose, and liberation of nitrogen gas from nitrates. Fluorescence is due to the formation of fluorescein, and is observed by use of long-wave ultraviolet light (Wood's Lamp). Lactose acidification is observed by a color change in the phenol red indicator in the agar. The denitrification of the nitrates is demonstrated by breaks in the agar.

MSDS:

Each tablet contains agar, lactose, assorted salts, a pH indicator, and other ingredients necessary to make a tablet Each tablet contains 2 mg. of Sodium nitrite which is harmful if inhaled, ingested, or absorbed through the skin. Ingestion of 1 gram has been known to cause death in humans. In case of ingestion, contact a physician immediately. In case of other accidental contamination, flood with large amounts of water.

STORAGE:

Store tightly covered in a dry place at room temperature.

QUALITY CONTROL:

Tablets should be tested with known positive and negative organisms. Dispose of used materials in a manner appropriate for biohazardous materials.

MATERIALS REQUIRED:

FLN Agar Tablets are provided in bottles of 50 tablets. The tests require fresh 24 hour growth on media appropriate for the specimen. Consult a clinical microbiology manual for suggestions. The following items are required but not provided: test tubes, distilled water pH 7.07.2, inoculating loop, and Wood's Lamp (K1698 or equivalent).

PROCEDURE:

(1) Add one FLN Agar tablet to 4 mls of distilled water in a small glass test tube.
(2)Autoclave at 15 pounds pressure for 15 minutes. Cool in a slanted position.
(3)When cool, inoculate with a needle by streaking the slant and stabbing to the butt of the tube.
(4) Incubate at 37C. Starting at 18 hours and continuing as long as 3 days, observe the tube for expected reactions.

INTERPRETATION OF RESULTS:

Fluorescence: In a darkened workroom, a positive test will show a bluish light when irradiated An uninoculated tube should be tested as negative control.
Lactose: A positive test is indicated by a color change from red to yellow.
Denitrification: Free nitrogen gas is indicated by breaks in the agar, beginning at the butt.

LIMITATIONS:

Fluorescence Development of Fluorescence varies both in time and intensity, so the culture should be observed at intervals from 18 to 48 hours. Since fluorescence often is more intense when incubation is at room temperature, tubes which seem negative when incubated at 35-37C should be held for 3 days in the dark at room temperature before being read as negative.
Lactose: Some nonfermentors oxidize lactose less vigorously and are unable to shift the pH sufficiently in the more complex FLN media. These could be tested with a single substrate media such as Key Lactose CarbohydrateOxidation Tablets.

REFERENCES:

1) Bailey and Scott's Diagnostic Microbiology, 7th Edition, Chapter 28, pages 422-437.
2) Manual of Clinical Microbiology, 7th Edition, Chapter 33, pages 517-525.

USUAL REACTIONS- FLN AND FMN

	Fluo.	Lac.	Nit.	Mot.
P. aeruginosa	+	-	+	+
P. fluorescens	+	w	w	+
P. putida	+	-	-	+
P. maltophilia	-	+	-	+
P. pseudomallei	-	+	+	+
A. anitratus	-	+	-	-
A. lwoffi	-	-	-	-

W=WEAK OR VARIABLE REACTION

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