RAPID ORNITHINE DECARBOXYLASE K710010

PRINCIPLE:
Decarboxylases attack specific amino acids and, by removing carboxyl groups, convert the amino acids to aliphatic amines forming CO2 as a second product. The decarboxylation of ornithine results in the formation of amines creating an alkaline pH shift which changes the color of the indicator . Conventional methods for detecting ornithine decarboxylase activity require an extended period of incubation. The tests generally involve the fermentation of glucose which lowers the pH of the medium, to the optimum hydrogen ion concentration for decarboxylase activity.

INGREDIENTS / MSDS:
Each tubes contains 2 ml of media. Approximate formula per litre of water.

L-Ornithine	12.0 gm
Microbiotone	2.5 gm
Yeast extract	3.0 gm
Bromscresol purple	10.0 mg

STORAGE:
Store tightly closed at 2-8 degrees C away from direct light or excessive heat. Media should not be used if there are any signs of deterioration or if expired.

MATERIALS REQUIRED:
All tests require fresh 24 hour growth on plated culture media. Consult the Manual of Clinical Microbiology for recommended media for the specimen. The following items are required but not provided: Incubator, inoculating loop and sterile mineral oil.

SETUP PROCEDURE:
To perform the tests, inoculate the tube with a loopful of the isolate. Overlay with sterile mineral oil and incubate at 35 degrees C for 3 hours.

INTERPRETATION:
Rapid Ornithine has bromcresol purple indicator which starts out pale purple. If the test is negative, a yellow color will develop due to acidification of the medium.

DISCUSSION:
Rapid ODC results are final at 2 hours for *Staph lugdinensis.* Positive results are usually visible within 30 minutes. If the *Staphylococcus* test is yellow at 2 hours, the results are negative. Allow 4 hours for *Enterobacteriaceae*.

QUALITY CONTROL:
Each lot should be tested prior to use with organisms which produce known reactions such as those listed. The Manual of Clinical Microbiology should be consulted for detailed reactions and identification charts. All finished tests should be discarded in a manner conforming with accepted laboratory procedures for biohazardous material.
These organisms should give a positive result.
* *Proteus mirabilis*
(4 - 18 hours)
* *Staphylococcus lugdunensis*
(30 minutes-2 hours)
These organisms will give a negative result:
* *Proteus vulgaris*
(hold 18 hours)
* S*taphylococcus epidermidis*
(2 hours)
Consult the Manual of Clinical Microbiology for a more complete list of reactions for identifying organisms

REFERENCES
1. August, M.J., et al. 1990. Cumitech 3A; Quality Control and Quality Assurance Practices in Clinical Microbiology, Coordinating ed., A.S. Weissfeld. American Society for Microbiology, Washington, D.C.
2. Murray, P.R., et al. 2003. Manual of Clinical Microbiology, 8th ed. American Society for Microbiology, Washington, D.C.
3. Forbes, B.A., et al. 1998. Bailey and Scott's Diagnostic Microbiology, 10th ed. C.V. Mosby Company, St. Louis, MO.
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