

Catarrhalis (Indoxyl Butyrate) Test Disk for the Identification of *Moraxella catarrhalis*

I. Principle

Moraxella catarrhalis produces the enzyme butyrate esterase. This property can be used as a rapid test in the identification of *M. catarrhalis*. Indoxyl is liberated from indoxyl butyrate by butyrate esterase, forming an indigo color in the presence of oxygen.

II. Materials

- A. Indoxyl butyrate disk (Catarrhalis Test Disk, Remel), store at 2-8°C until stated expiration date
- B. Disposable inoculation loop or wooden applicator stick
- C. Microscope slide

III. Quality Control

- A. Quality control is performed with each new lot or shipment of disks and includes the following organisms and their expected reactions:

<u>Control organism</u>	<u>Incubation</u>	<u>Results</u>
<i>Moraxella catarrhalis</i> ATCC 25238	2 min	Positive: blue-green color
<i>Neisseria lactamica</i> ATCC 23970	2 min	Negative: no color change

If controls do not display expected results, quality control must be repeated. Notify the supervisor.

IV. Procedure

- A. Dispense a disk onto a microscope slide.
- B. Do not rehydrate the disk.
- C. Smear several colonies of oxidase-positive, gram-negative diplococci across the disk surface using a loop or applicator stick.
- D. Observe for a blue-green color development within 2 min.

V. Results and Interpretation

- A. A positive reaction will show a blue-green color where the colonies were applied to the disk, indicating a positive test for butyrate esterase production.
- B. A negative reaction will be indicated by no color change.

VI. Limitations

- A. Interpretation of results is based on testing only oxidase-positive, gram-negative diplococci.
- B. Some strains of *Moraxella* sp. (bacilli) other than *M. catarrhalis* may produce a positive or weak positive reaction. *Acinetobacter*, *Staphylococcus*, and *Pseudomonas* may also yield a positive reaction.
- C. These disks are to be used only with lower respiratory tract specimens.

VII. Reference

- A. Dealler, S.F., Abbott, M., Croughan, M.J., and Hawkey, P.M. 1989. Identification of *Branhamella catarrhalis* in 2.5 min with an indoxyl butyrate strip test. *J. Clin. Microbiol.* 27:1390-1391.
- B. Remel Catarrhalis Test Disk package insert. IFU 21121, September 23, 2003.

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Updates and Revisions: