

K9131B BUTYRATE DISCS

DISCUSSION:

Branhamella (Moraxella) catarrhalis, once thought to be non-pathogenic, is now considered a possible agent in respiratory infections. Because this organism can be found at the same sites as pathogenic *Neisseria spp.* and shares some physiological and biochemical characteristics, it is important to have a screening test for differentiation of *Branhamella catarrhalis*(1,2). Used in conjunction with other tests, butyrate discs achieve this by demonstrating the enzymatic hydrolysis of bromo-chloro-indolyl butyrate which creates a blue reaction. *Neisseria spp.* do not hydrolyze this substrate and will remain colorless.

QUALITY CONTROL:

Butyrate discs should be tested with known positive and negative organisms as outlined in the Manual for Clinical Microbiology. We suggest *B. catarrhalis* ATCC 25240 (positive) and *N. gonorrhoeae* ATCC 19424 (negative). All finished tests should be discarded in a manner appropriate for biohazardous materials.

STORAGE:

Store in tightly closed bottle at <0°C, in the dark.

MATERIALS REQUIRED:

Butyrate discs are provided in a bulk pack of 50 discs. The test requires fresh 24 hour growth on plated chocolate, blood agar, or other appropriate culture media. Also required but not provided:

- Loop or stick for harvesting colonies,
- Pipettes,
- Purified water (pH 6.5-7.5).

INSTRUCTIONS FOR USE:

1. Place a disc onto a slide and moisten slightly, using enough water to keep the disc moist throughout incubation but do not over moisten. As an alternative, you may place a disc in a tube with 1 drop of water.
2. Inoculate with a visible paste of the organism in question, then wait for 5-15 minutes. (Incubation is not necessary.) At 5 minutes, the reaction in a tube will be brighter than the reaction on a slide. The color reaction will darken upon standing using either method. Do not hold the test longer than 30 minutes as false positives will occur.
3. The development of a blue color indicates *Branhamella catarrhalis*. A negative test will be colorless.

LIMITATIONS:

This is only part of the overall scheme for identification. Further tests are necessary for confirmation. Many strains of *Moraxella* as well as some other organisms are also butyrate esterase positive while most *Neisseria spp.* are negative.

REFERENCES:

1. Riou, J.Y. et al.: "hydrolyse de la tributyrine par les *Neisseria* et les *Branhamella*". (French). *Ann.Microbiol. (Inst. Pasteur)*132A, 159-169 (1981)
2. Riou, J.Y., Guibourdenche: "*Branhamella catarrhalis*. New Methods of bacterial diagnosis." *Drugs* 31, (suppl. 3), 1-6 (1986)



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