CASAMINO ACID SOLUTION (1%)

INTENDED USE

Remel Casamino Acid Solution (1%) is a liquid medium recommended for use as an enriched, short-term transport medium for Bordetella species.

SUMMARY AND EXPLANATION

Bordetella pertussis was first isolated by Bordet and Gengou in 1906 as the causative agent of whooping cough.¹ It is among the most fastidious bacteria known and must be cultured using special techniques. Direct plating of nasopharyngeal swabs at the bedside is one method for culturing *Bordetella* organisms.² Transport of specimens is usually necessary and requires the use of a transport medium. Select a transport medium based on the length of time the specimen will be in transit.³ Casamino Acid Solution (1%) is recommended for specimens which will be in transit for 2 hours or less.⁴ Specimens transported in Casamino Acid Solution can be used for direct fluorescent antibody (DFA) testing which is a valuable adjunct to culture for early presumptive diagnosis of pertussis.⁵

PRINCIPLE

Casamino acid is acid hydrolyzed casein. It is useful in culture media which require a hydrolyzed protein (amino acid) as a nitrogen source.

REAGENTS (CLASSICAL FORMULA)*

Casamino Acid...... 10.0 g

Demineralized Water...... 1000.0 ml

pH 7.2 +/- 0.2 @ 25°C (Prior to terminal sterilization)

*Adjusted as required to meet performance standards.

PROCEDURE

All suspected cases of pertussis should have a nasopharyngeal (NP) aspirate and/or NP swab obtained for culture. Specimens should be collected from the posterior nasopharynx up to 4 weeks after onset of symptoms. NP aspirates are the preferred method of specimen collection because they have a higher recovery rate of *Bordetella* spp. than NP swabs. If swabs are used, only calcium alginate or polyester swabs are acceptable. Cotton swabs may contain inhibitors that decrease isolation rates. Consult appropriate references for detailed specimen collection guidelines.³⁻⁵

Optimally, media should be directly inoculated at the time of specimen collection. If a delay cannot be avoided and the duration of transport is 2 hours or less, a transport system such as Casamino Acid Solution (1%) (R060462) is recommended.⁶

- 1. Place the specimen in Casamino Acid Solution (1%) immediately after it is collected and transport to the laboratory as soon as possible.
- 2. Inoculate the specimen as soon as possible after receipt in the laboratory and streak for isolation. Both selective and nonselective media should be inoculated.
- Incubate plates in ambient air at 35-36°C for at least 7 days; incubation up to 12 days may increase yield.
 Note: *B. pertussis* will not grow at 37°C; incubation at 35°C is optimal. The CDC Pertussis Laboratory recommends incubation at 35-36°C.⁶
- 4. To avoid drying, place plates in a plastic bag or moist chamber with a sterile moistened filter paper; drying reduces the recovery rate of *B. pertussis.*
- 5. Examine plates daily for growth. Bordetella colonies are tiny, smooth, transparent, glistening, and domed.

QUALITY CONTROL

All lot numbers of Casamino Acid Solution (1%) have been tested using the following quality control organism and have been found to be acceptable. Testing of control organisms should be performed in accordance with established laboratory quality control procedures. If aberrant quality control results are noted, patient results should not be reported.

CONTROL

Bordetella pertussis ATCC[®] 12742

INCUBATION Ambient, up to 2 h @ 25-30°C RESULTS

Growth recovered on subculture

BIBLIOGRAPHY

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- 5. Garcia, L.S. 2010. Clinical Microbiology Procedures Handbook. 3rd ed. ASM Press, Washington, D.C.
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Refer to the front of Remel Technical Manual of Microbiological Media for General Information regarding precautions, product storage and deterioration, specimen collection, storage and transportation, materials required, quality control, and limitations.

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