

BUFFERED CYE (BCYE) AGAR NONSUPPLEMENTED

INTENDED USE

Remel Buffered CYE (BCYE) Agar Nonsupplemented is a solid medium recommended for use in qualitative procedures to aid in the identification of *Legionella* species.

SUMMARY AND EXPLANATION

The *Legionella* bacterium was first isolated in 1977 using guinea pigs and embryonated chicken eggs.¹ Feeley et al. developed Charcoal Yeast Extract (CYE) Agar which contained iron salts, L-cysteine, yeast extract, and charcoal for isolation of *Legionella* from clinical specimens.^{2,3} In further modifications, Buffered CYE (BCYE) Agar was developed by adding ACES buffer and α -ketoglutarate which served to stabilize the pH and improve the isolation of *Legionella pneumophila* from contaminated clinical and environmental specimens.^{4,5} *Legionella* spp. have an absolute growth requirement for L-cysteine and without this amino acid they are unable to grow. Colonies with typical morphology on selective BCYE media are subcultured onto BCYE Agar and BCYE Agar Nonsupplemented.⁶ Those isolates that grow on BCYE Agar but fail to grow on BCYE Agar Nonsupplemented may be presumptively identified as *Legionella* spp.⁷

PRINCIPLE

BCYE Agar Nonsupplemented contains charcoal and yeast extract to enhance the growth of *Legionella*. Charcoal also serves to absorb toxic metabolic products and modify the surface tension of the medium. ACES Buffer maintains proper pH and α -ketoglutarate is added to stimulate growth. Agar is a solidifying agent.

REAGENTS (CLASSICAL FORMULA)*

ACES Buffer.....	10.0 g	α -ketoglutarate	1.0 g
Yeast Extract.....	10.0 g	Agar	15.0 g
Charcoal.....	1.5 g	Demineralized Water	1000.0 ml

pH 6.9 \pm 0.2 @ 25°C

*Adjusted as required to meet performance standards.

PROCEDURE

1. Consult current editions of appropriate references for the recommended procedure for sample preparation, inoculation, testing, and interpretation.

QUALITY CONTROL

All lot numbers of BCYE Agar Nonsupplemented have been tested using the following quality control organisms 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

Legionella pneumophila ATCC® 33152
Escherichia coli ATCC® 25922
Staphylococcus aureus ATCC® 25923

INCUBATION

Ambient, up to 72 h @ 33-37°C
Ambient, 18-24 h @ 33-37°C
Ambient, 18-24 h @ 33-37°C

RESULTS

No growth
Growth
Growth

LIMITATIONS

1. This medium is not intended for primary isolation of *Legionella* spp.

BIBLIOGRAPHY

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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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