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# GELATIN BROTH (0.4%)

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## INTENDED USE

Remel Gelatin Broth (0.4%) is a liquid medium recommended for use in qualitative procedures for differentiation of *Nocardia* and *Streptomyces*.

## SUMMARY AND EXPLANATION

The aerobic actinomycetes are a heterogeneous group of genera which include the species of *Nocardia* and *Streptomyces*.<sup>1</sup> As a group the organisms may be differentiated by their action on certain substrates, such as gelatin. Bojalil and Cerbon evaluated the differences between *Nocardia asteroides* and *Nocardia brasiliensis* by testing their ability to utilize gelatin in dilute gelatin (0.4%) broth.<sup>2</sup> Gelatin Broth (0.4%) is recommended for inclusion in the battery of substrates used to differentiate the aerobic actinomycetes.<sup>3-5</sup>

## PRINCIPLE

Gelatin is the sole source of nitrogen and carbon in Gelatin Broth (0.4%). The ability of an organism to utilize gelatin as a protein source and decompose it into free amino acids is determined by its growth in this medium. *N. brasiliensis* forms abundant rounded colonies which adhere strongly to the wall of the tube, or sink to the bottom in a mass, while *N. asteroides* grows very poorly, developing flaky growth that is easily dispersed throughout the medium.

## REAGENTS (CLASSICAL FORMULA)\*

Gelatin ..... 4.0 g                      Demineralized Water ..... 1000.0 ml

pH 7.0 ± 0.2 @ 25°C

\*Adjusted as required to meet performance standards.

## PROCEDURE

1. Inoculate the broth with a small fragment (a light inoculum) of the test isolate growing on Sabouraud dextrose agar.
2. Incubate in ambient air at 25-30°C for 21-25 days.
3. Examine the tube for quantity and type of growth. *Nocardia brasiliensis* shows good growth with round compact colonies. *Nocardia asteroides* exhibits no growth or very sparse, thin, flaky growth. *Streptomyces* species show poor to good growth (stringy or flaky).

## QUALITY CONTROL

All lot numbers of Gelatin Broth (0.4%) 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

*Nocardia brasiliensis* ATCC® 19297

*Nocardia asteroides* ATCC® 19247

### INCUBATION

Ambient, 10 days @ 25-30°C

Ambient, 10 days @ 25-30°C

### RESULTS

Growth, round compact colonies

Inhibition (partial to complete); very sparse, thin, and flaky growth

## 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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