



## Karius Test for the Diagnosis and Management of Endocarditis

### Direct Detection and Quantification of Bacterial Cell-free DNA in Patients with Infective Endocarditis Using the Karius Plasma Next Generation Sequencing Test

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**The Karius Test, with its ability to detect and quantitate a wide breadth of pathogens, can be a useful diagnostic and monitoring tool for infective endocarditis, even in patients with culture-negative endocarditis.**

### PATIENT POPULATION

This prospective study enrolled 30 hospitalized adult patients evaluated for acute infective endocarditis classified using the Duke Criteria.

### STUDY DESIGN

The Karius Test was performed on residual plasma samples collected within 24 hours of evaluation and whole blood samples collected within 48-72 hours of enrollment as well as on samples collected every 2-3 days for up to 7 time points until hospital

### RESULTS

Of the 30 patients eligible for analysis, 24 had definite infective endocarditis. Of these, 21 patients had culture-positive disease.

The Karius Test identified the same organism as cultures in 20 patients (95.2% sensitivity) and additionally identified *Enterococcus faecalis* in 1 out of the 3 culture-negative definite endocarditis patients.

Pathogen cell-free DNA signal decreased on antibiotic treatment with rapid declines after surgical procedures to remove the source of infection even while repeat blood cultures remained negative.

The Karius Test identified pathogens causing the endocarditis episode in patients pre-treated with antibiotics up to 30 days prior to initial sample collection.