



LABORATORY DIAGNOSIS OF CULTURE-NEGATIVE INFECTIVE ENDOCARDITIS

STEPHEN R. GRAVES
FOUNDER & MEDICAL DIRECTOR
AUSTRALIAN RICKETTSIAL REFERENCE LABORATORY





CAUSES OF CULTURE-NEGATIVE IE

- 1. prior use of antibiotics
- 2. transient bacteraemia
- 3. microbial concentration too low to establish positive blood culture
- 4. microbe grows too slowly or not at all in culture medium
- 5. microbe has obligatory intra-cellular growth



Culture-negative infective endocarditis



Infection & Microbe	Serology	PCR	Culture
Q-Fever (<i>Coxiella burnetii</i>)	yes (IF)	yes	yes (BSL-3)
Bartonellosis (<i>Bartonella henselae</i>)	yes (IF)	yes	yes
Rickettsioses (<i>Rickettsia australis</i>) (<i>Orientia tsutsugamushi</i>)	yes (IF)	yes	yes (BSL-3)
Whipple's Disease (<i>Tropheryma whippelii</i>)	? (IF)	yes	? (yes)
Lyme Disease (<i>Borrelia burgdorferi</i>)	yes (EIA,WB)	yes	? (yes)