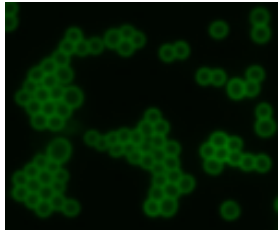
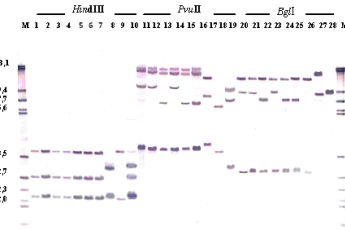




# Department of Medical Microbiology 2<sup>nd</sup> Faculty of Medicine, Charles University and Motol University Hospital, Prague



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## Unusual strains of *S. aureus* isolated from chronic infections

(e.g. cystic fibrosis, osteomyelitis, device related infections)

### Hard to detected auxotrophic and nonculturable strains

- direct detection in patient sputa using DNA methods

### Specific mechanism of resistance

- hypermutators and persistors

### Clonality and epidemiology

- clonal analysis using fingerprinting and sequence based methods

### Intracellular persistence and virulence

- tissue culture assays

## **Modern bartonellae and human infection**

Detection of emerging bartonellae as *B. henselae* and *B. quintana* in modern society from patients with serious infections

### **Hard to detect**

- detection in blood and tissue samples using molecular methods

### **Clonality and epidemiology**

- clonal analysis using fingerprinting and sequence based methods to confirm source and vectors of infections

### **Prevalence**

- patients with culture negative endocarditis and immunosuppressed patients

### **Pathogenesis of these infections**

## **Clonal analysis (typing) of bacterial nosocomial pathogens**

### **Epidemic spread of nosocomial infection**

- fingerprinting and sequence based methods to type these pathogens