



## *Staphylococcus aureus* (MRSA ATCC 43300) Titanium implant-associated biofilm infection

### Procedure Summary

- Immunocompetent BALB/c mice, eight weeks old females
- Methicillin-resistant *Staphylococcus aureus* (MRSA) reference strain (ATCC 43300)
- Mature biofilm model (up to 14 days post-infection)
- Subcutaneous insertion of the titanium implant after skin incision Tolerance and safety evaluation of a coated antibacterial implant vs an uncoated implant
- Bacterial challenge and evaluation of the antibacterial efficacy of the coated implant

### Experimental readouts

- Bacterial counts on implant – evaluation of biofilm
- Bacterial counts in surrounding tissue
- Biological analysis (ISO 10993-11)
- Weight loss
- Survival rate
- Clinical score
- Detection of resistant mutants

### Optional Services

- Pharmacokinetics
- Tissue compatibility (ISO 10993-6)
- Histopathology

### Literature / reference

- Tasse *et al.*, Pathog. Dis. 2016. « Preliminary results of a new antibiotic susceptibility test against biofilm installation in device associated infections : the Antibiofilmogram®. »
- Press release:  
<https://finance.yahoo.com/news/landmark-study-reveals-technology-debogv-131500936.html>
- Internal data

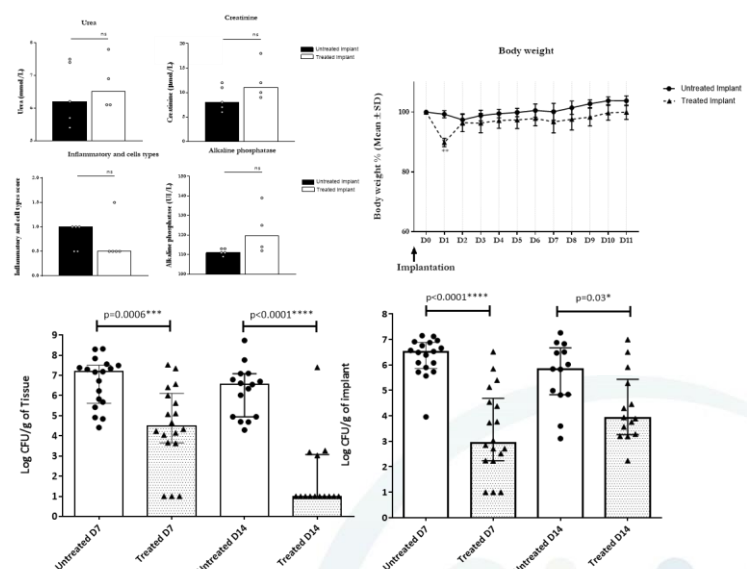
### Animal Welfare

- Each experimental protocol is approved by the local ethics committee for animal experimentation of Grand Campus Dijon (Burgundy, France) and performed in accordance to the current recommendations of the European Institute of Health EU Directive 86/609

### Facilities

- These assays are performed at our BSL2 laboratory / zootechnical center in Dijon, France

### Safety and antibacterial efficacy of titanium treated implant against MRSA (ATCC 43300) biofilm in a mouse model of implant associated infection after 7 and 14 days of infection in surrounding tissues and on implants.



Our scientific team will readily accommodate client-specific alterations and will provide expert advice and guidance for your efficacy studies

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