



## *Klebsiella pneumoniae* (carbapenemase KPC-2) - pneumonia

### Procedure Summary

- Immunocompetent New Zealand rabbits
- *K. pneumoniae* carbapenem resistant (27908M clinical isolate : **KPC-2**, SHV-27, TEM-1)
- Intra-tracheal challenge ( $10^{11}$  CFU)
- Antibiotic regimen :
  - Doripenem 1g/8h IV
  - Ceftaroline 600mg/8h IV
  - Ceftaroline 600mg/8h IV + avibactam 600mg/8h IV
  - Ceftaroline 1g/8h IV + avibactam 1g/8h IV
  - Ceftaroline 2g/8h IV + avibactam 2g/8h IV
  - Ceftaroline + avibactam, both in continuous IV infusion
- Simulated human dosing (PK) for 48h

### Experimental readouts

- Bacterial burden in lung tissue and spleen
- Weight loss, food intake
- Fever
- Clinical disease severity score
- Morbidity and mortality
- Gross pathology of lungs
- Detection of resistant mutants

### Optional Services

- Broncho Alveolar Lavage Fluid
- Immune cell counts
- Histology
- Cytokine and chemokine analysis

### References

- Internal data

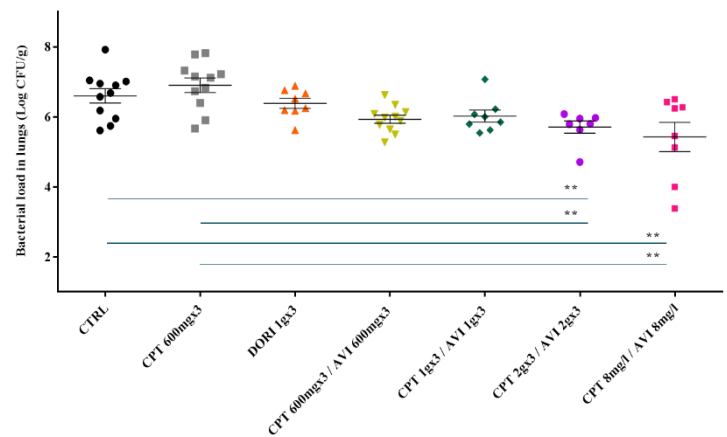
### Facilities

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

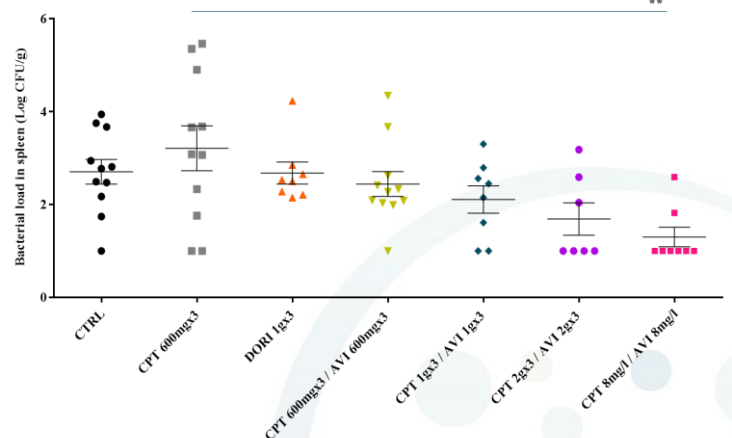
### Animal Welfare

- 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.

Residual bacterial concentrations in lungs of rabbits infected with a KPC-2 *Klebsiella pneumoniae* strain and receiving different antibiotic regimen.



Residual bacterial concentrations in spleen of rabbits infected with a KPC-2 *Klebsiella pneumoniae* strain and receiving different antibiotic regimen.



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

For more information please contact : [info@vivexia.fr](mailto:info@vivexia.fr)