

# Novel monoclonal antibodies (mABs) to treat hypervirulent infections

R-8737

## mABs elicit protective immune response in murine infection models resulting in increased bacterial clearance and mice survival

### Background

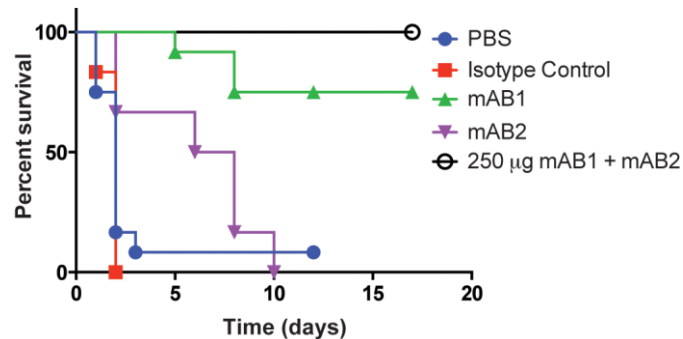
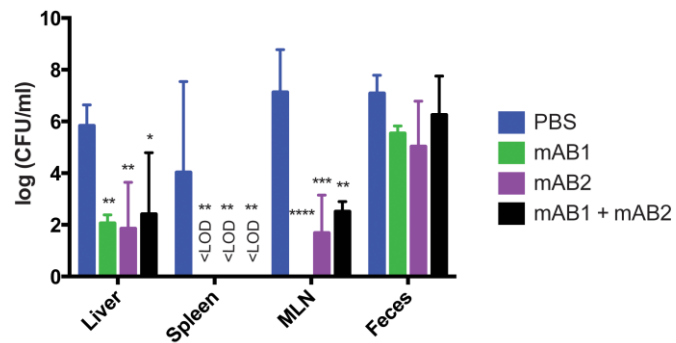
Hypervirulent *K.pneumonia* (hvKp) strains are a major threat worldwide with predominant occurrence in Asia. hvKp's ability to cause life-threatening infections in healthy individuals, coupled with their ability to acquire MDR phenotype has resulted in an urgent need to develop novel treatment strategy. Such a treatment strategy would ideally be a) not susceptible to resistance development and, b) specific to pathogenic organism without affecting microbiome.

### Technology

Dr. Fries and her team have developed an antibody based approach overcoming the problems associated with the use of antibiotics. The mABs generated against a conserved capsular polysaccharide was demonstrated to confer significant protection and applicability as a diagnostic tool in murine hvKp infection models.

### Patent

PCT application covering composition and method of use filed (PCT/US16/58257)



**Figure:** Upper panel depicts reduced bacterial dissemination in a Kp colonized animal model and lower panel demonstrates survival benefit in Kp infected mice, following treatment with mABs.

### Advantages

- Highly specific to pathogen, leaves microbiome unaltered
- Less likely to promote drug resistance
- Protective against dissemination in colonized animal models
- Long serum half life of mABs results in reduced dosing frequency
- Diagnostic applicability for early detection of hvKp infection

### Applications

- Infectious diseases
- Therapeutics
- Diagnostics

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