

# 2021 Lecture Series

## Dr Timothy Wells

Senior Research Fellow, Diamantina Institute  
University of Queensland

will present a seminar entitled

### Impact, mechanisms and treatment of antibodies that enhance bacterial infection

Friday 6 August 2021, 11am

Institute for Glycomics  
Online via Zoom



### Abstract

Antibodies are well known for their role in protecting individuals against infection, however in certain cases the production of specific antibody can actually promote disease. Antibody-dependent enhancement (ADE) of infection is well described for viral disease; however, antibodies that enhance bacterial disease are relatively unknown. *Pseudomonas aeruginosa* is a bacterial pathogen that is increasingly resistant to last resort antibiotics and new treatments are desperately needed. We previously identified patients that produced a specific antibody that protected their infecting *P. aeruginosa* from killing by the immune system. These 'cloaking antibodies' target lipopolysaccharide on the bacterial surface. Importantly, patients with these antibodies have worse lung function and outcomes than patients with normal complement-killing. Here we discuss the prevalence, impact, mechanisms of cloaking antibody, as well as the successful treatment of patients with these antibodies via plasmapheresis.

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