17 January 2024

CYSTIC FIBROSIS WA POST GRADUATE TOP UP SCHOLARSHIP 2022

Year 2 Progress Report

Project Titled: Assessing aerosolised bacteriophage to treat antibiotic resistant bacterial infections

Throughout the second year of my project I have been continuing work on testing the nebuliser device we have (Aerogen Pro) with phages from our library. In the first year of my project we tested crude, unpurified phage samples that were not suitable for human use, however this year I have been focused on purifying our phages so that we can test a sample that is safe enough to deliver to a human. For this I used high-performance liquid chromatography to purify 6 of our most effective phages. This did not completely purify our phages to be safe enough for pharmaceutical use, so I am currently in the process of testing an alternative method of purifying our phages using organic alcohols.

During the next year of my project I aim to nebulise these pure phages, representing how they would be affected when delivered to a human. I will also be testing these phages on human cells to ensure they are safe for delivery to a patient. This will allow for us to, for the first time, have phages in our library that are proven to be capable of delivery to the lungs and illicit no adverse effects to human cells.

Rohan Flint

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