

Research Award:

Investigating cellular cross talk in the airway epithelial mesenchymal trophic unit following viral infection.

Awarded to: Cornelia Blume and E. Swindle **Amount:** £5,350

Lay summary

Inside the lungs, epithelial cells form a barrier between the outside world and the inside of our bodies. Underneath the epithelial barrier are cells called fibroblasts, which produce proteins which help repair the lung tissue. These 2 cell types work together to help keep our lungs healthy. Viruses such as the common cold virus can infect our lungs and damage epithelial cells, making symptoms of respiratory diseases such as asthma worse. We have made a model of the lung in the laboratory and exposed this to a component of the common cold. We found that the epithelial cells release chemicals that signal to the underlying fibroblasts. These fibroblasts respond by increasing the production of proteins that help repair the tissue. Our results suggest that different cells work together in the lungs and may co-ordinate repair responses to the common cold. The support of AAIR in this project contributed to data generated by Miss Chiara Banas, a integrated PhD student on her first year rotation project which we are currently preparing a manuscript for publication. She presented this work at the integrated PhD away day and at the Faculty of Medicine Research Conference.

Presentations

- Effect of dsRNA on extracellular matrix deposition in an in vitro model of the airway mucosa. Chiara Banas, Cornelia Blume, Donna Davies, Emily Swindle. MRC-DTP integrated PhD Away Day, Grand Harbour Hotel, Southampton, February 2017.
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Posters

- The effect of dsRNA on extracellular matrix deposition in an in vitro model of the airway mucosa. Chiara Banas, Cornelia Blume, Donna Davies, Emily Swindle. Southampton Medical and Health Research Conference, Faculty of Medicine, University of Southampton, June 2017.
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