



Charlemont Grant Report

Recipient Name:	Dr Stephanie Annett
Discipline:	Humanities and Social Sciences
Amount and year awarded:	€2,500 in 2019
Title of Project:	Is CD44 required for the anti-inflammatory activity of FKBPL based therapies?



Summary of findings:	<p>My research involves investigating the protein FKBPL and it has both anti-cancer and anti-inflammatory properties. The anti-cancer properties of FKBPL through signaling via the CD44 cell surface receptor, however we did not know if the anti-inflammatory activity was also mediated through the CD44 receptor.</p> <p>Therefore, in order to investigate if FKBPL's anti-inflammatory activity also requires CD44, I visited Prof Pauline Johnsons Lab at the University of British Columbia (Canada) with the Charlemont scholarship. The lab have a mouse colony with have CD44 knocked out (KO). From the mice I extracted wild type and CD44 KO bone marrow derived macrophages and treated with LPS +/- FKBPL. I then conducted downstream assays including ELISA's for cytokine release, western blots for and inflammatory gene expression analysis. My results definitely conclude that CD44 is not required for FKBPL to be a negative modulator of NFκB signaling. Overall, my research question was answered and CD44 is not required for FKBPLs anti-inflammatory activity. This opportunity have allowed me to unravel the signaling of FKBPL and is critically important to understand the signaling mechanism when developing FKBPL as a novel therapy to target anti-inflammatory disease.</p>
Plans for continuing collaboration:	<p>Although the research results showed that the receptor CD44 was not required for signaling, we are continuing to collaborate and the group will send me over more macrophages from the mice in order to continue further experiments in the new year.</p>
Publication plans:	<p>I am currently preparing a manuscript on the anti-inflammatory activity of FKBPL which the data acquired will be a full figure in this manuscript. I plan to finish several experiments, in collaboration with Prof Johnsons lab, and submit it in 2020. I will submit it to a high impact journal such as Journal of Experimental Medicine.</p>
International dissemination:	<p>I have not yet presented the data at an international conference as the mechanism of action is still work in progress. However, when I have a more complete 'story' I will submit it to an international conference.</p>



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National dissemination:	I will present the data as part of a larger study at the National Children's Research Charity research day in December 2019. As described above, when I uncover more of the signaling mechanism I will submit the data to the Irish Immunology Society and the Irish Pharmacology Annual Conferences.
Outreach:	I have organized Pint of Science for the past two years in Dublin and I will apply for similar public festivals this year as a speaker. I have participated in RCSI organized events such as Lab Safari with school children and Intergenerational day with senior citizens.