# Targeting AhR in inflammatory Bowel Disease

## Project Description

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| **Project duration:** | PhD project 3- 4 years |
| **Description:** | AhR is a ubiquitous receptor in the GI tract responsible for maintaining gut homeostasis. The natural ligands for Ahr include metabolites of dietary tryptophan and bacterial metabolites among others. In inflammatory bowel disease Ahr signalling is reduced, and activation of Ahr is a potential novel therapeutic approach to treating this condition. This project will work with a library of bacteria identified through screening that activate the AhR pathway to partially purify and characterise the metabolites and examine their effect in vitro and ultimately in vivo on Ahr signalling. |
| **Expected outcomes and deliverables:** | • Screen a library of bacteria to identify members that can modulate AhR signalling *in vitro*.<br>• Test identified strains for their ability to modulate AhR signalling ex vivo and *in vivo*.<br>• Determine the effect of Ahr agonists *in vivo* |
| **Suitable for:** | This project would be suitable for a PhD candidate who has completed Honours (or equivalent research experience), has taken lab based courses and is familiar with basic laboratory techniques.<br><br>Prior experience with cell culture and microbiology is a plus but not required. |
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