Our research focus is understanding how the sentinels of the immune system, the dendritic cells (DC), sense and respond to “danger” in their environment, and to use this knowledge for improving vaccines and immunotherapies. DC have an array of receptors designed to detect pathogen-associated and damage-associated molecular patterns. These receptors enable DC to sense invading pathogens or other danger (eg. damaged or dead cells) and to direct the type of protective immune response required. Importantly, there are multiple DC subsets which are tailored for different functions. DC subsets can recognise different pathogens and damage signals, and respond accordingly. Our focus is to determine the receptors that enable the DC to sense and respond to such signals, and their role in inducing immune responses.

Research Projects

1. **The dendritic cell receptor Clec9A: dead cell recognition and immune modulation**

2. **Molecular mechanisms that underpin dendritic cell cross-presentation**

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**Selected significant publications:**


