“Artificial cells” for suppressing immune activation associated cytokine storm

Project Title	“Artificial cells” for suppressing immune activation associated cytokine storm
Project duration:	Three years
Availability	Quarter one of 2021
Description:	Immune activation is the key to combat bacterial and viral infections. However, in some cases, overactivated immune cells are not only killing the bacteria or virus, but also causing damage to our own body. Activated immune cells release large amount of immune mediator “cytokine” to attract other immune cells and causing more damage. To break the vicious cycle, this project aims to develop “artificial cells” that can “mop up” excess cytokines therefore dampen the overactivated immune response. The artificial cells are generated to mimic normal immune cell function using nanotechnology in combination of immunological techniques. The efficacy of the artificial cells in blocking immune overactivation will be assessed in vitro using immune activation assays as well as in vivo using “humanised” mouse models.
Expected outcomes and deliverables:	This is an inter-disciplinary project involving research in multiple fields. Candidates can expect to gain knowledge and learn technique in areas including material science, drug formulation, immunological assays and animal studies. We expect to generate novel data with commercial interest and produce high-quality publications.
Suitable for:	Potential PhD candidates with experience in biology, immunology, or drug formulation are welcome to apply.
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