

Development of Biomimetic Cellular Compartments for Vaccine Production

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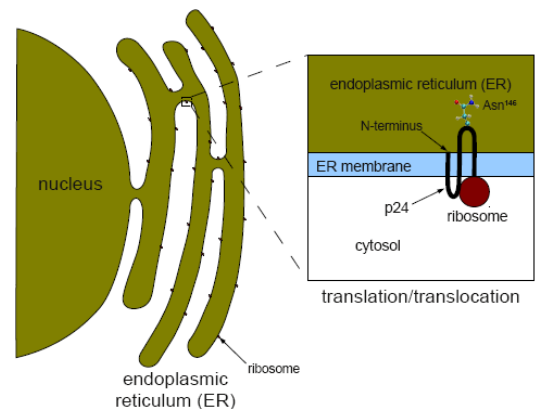
Nature of work: Development of methods for making synthetic cellular compartments and their exploitation for manufacture of virus-like particles

Area: Leading edge of pharmaceutical engineering.

Potential implications: Being able to make vaccines in days rather than months at a fraction of the current cost.

Funding: *Via* the various University scholarship schemes (see separate information for these).

Brief description: Many current methods for vaccine production are extremely slow (months per batch) and highly inefficient. This means they are not well suited to responding to potential pandemics and increases their cost, reducing their availability. In this project, we will seek to develop synthetic systems that mimic what happens in the natural cells that are currently used to make virus-like particle (VLP) based vaccines (see right) with a view towards developing a much more rapid and efficient method for their production. This will involve forming vesicles from suitable lipids with the proteins that make up the virus capsid embedded within the membranes.



There are many more projects in the areas of biotechnology. Feel free to contact me (mark.biggs@adelaide.edu.au; +61-8-8303-6317) or drop in to my office (N119) if you want to have further discussion or other possible PhD projects.