

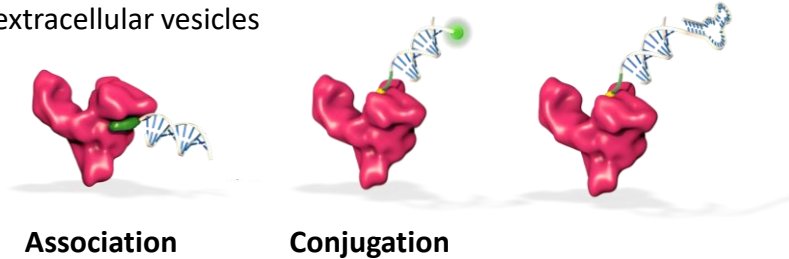


General description of the research

Our lab focus on designing drug delivery systems with a focus on utilising the natural transport properties of albumin and its interaction with the neonatal Fc receptor (FcRn). By using artificial versions of albumin engineered with different FcRn affinity, we can fine-tune how drugs behave in the body i.e., how long they circulate, where they go, and how they're released. Some of our previous work involve engineering albumin sequences into bispecific T-cell engagers with containing e.g., anti-4-1BB and PD-L1 to enhance cancer therapeutics and autoimmune diseases. A major directive of the lab is using oligonucleotide (ODN) linkers for "Plug-and-Play" assembly of designs.

Projects: which projects can you offer the students

- Albumin-pathogen binding
- Albumin-mediated antigen delivery
- The role of albumin in transport of extracellular vesicles
- ODN functionalisation



Techniques

Functional cell studies

In vivo studies

Biolayer interferometry

qPCR

Western blot

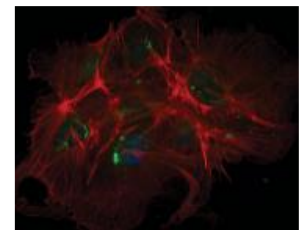
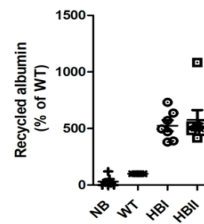
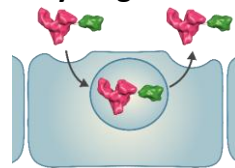
Dot blot

Nanoparticle tracking analysis

Nanoparticle flow cytometry

High-performance liquid chromatography

Recycling



Pharmacokinetics

