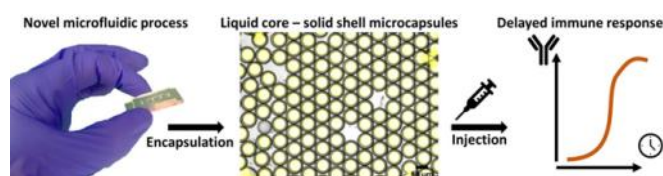


Vaccine delivery technology for greater compliance and coverage, and cost effective vaccination campaigns

Novel injectable microcapsules, produced by high throughput microfluidics, enabling complete vaccination via a single injection. After injection, the microcapsule shell degrades, providing a burst release of Active Pharmaceutical Ingredients (APIs) at a pre-programmed timepoint.

Applications: vaccination, drug delivery



Features	Benefits
Each microcapsule (<80µm) has a distinct aqueous liquid core in which a range of APIs can be dissolved, surrounded by a shell that degrades after a tuneable time delay	Programmable burst release of the API(s)
Microfluidic system that allows precise control over microcapsule architecture at micrometre scale and scalable, continuous processing	Allows multiple therapies to be administered through standard clinical needles in a single injection
	Allows “one shot” vaccination (prime + booster in a single injection), improving immunisation campaigns by simplifying logistics and improving coverage

Features	Benefits
	Excellent microcapsule uniformity and batch-to-batch reproducibility
	Chip design allows for high throughput production and easy scaling through parallelisation
	Real-time control over microcapsule core size and shell thickness
	Easy postproduction quality control of the loading and particles
	API protected from exposure to harsh conditions that can damage its structure or affect its function

To find out more, contact enquiries@innovation.ox.ac.uk and quote the project number.

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