Next generation CAR-DC1 cell therapy

The Problem

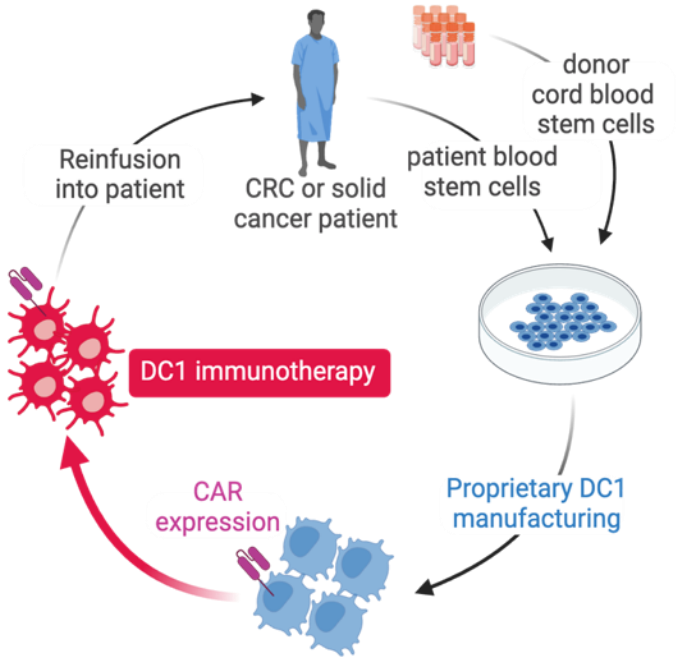
- A DC-based immunotherapy would be more effective than other cell therapies, including CAR-T, because “type 1” conventional dendritic cell subset (DC1) are superior at antigen cross-presentation and tumour cell killing
- However, DC1 are scarce in the blood (<0.1% of circulating leukocytes) and a method to generate adequate numbers of DC1 for clinical use has held up the field.

The Solution

Using our proprietary method we can generate up to a billion DC1 cells from human blood and then engineer them to express a proprietary DC1-specific CAR to activate and help them find the tumour

A first-in-class CAR-DC1 therapy has:

- Better tumour infiltration and persistence
- Activation of immune system to kill tumour cells
- Recognition of multiple tumour antigens (epitope spreading) to overcome tumour heterogeneity



CAR-DC1s home better to tumours and activate a polyclonal, tumour-lytic T-cell response

Our Program

- Progress: Transferred scalable GMP-ready DC1 culture protocol to cell therapy CRO; strong preliminary POC data for tumour control with lead CAR construct; secured non-dilutive funding with 5-year runway.
- Next steps: *in vivo* solid tumour control in humanized mice, including benchmarking with current therapies; CAR delivery optimization.

Seeking ***investment*** to progress our DC1 cell therapy into the clinic.

Our Team

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Prof. Shalin Naik, DC biology and manufacturing
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