

Better late than never for Maxcyte's one-day CAR-T approach



[Jacob Plieth](#)

It is just as well that Maxcyte has an electroporation service business as well as an R&D operation, otherwise its past two years would have been pretty quiet. It has taken that long for Carma, its flagship CAR-T technology, to get off the ground. The group's 2016 listing in London was a bet on a mesothelin-directed CAR-T project using Carma, a trial of which was to begin last year. The US IND for this asset, now coded MCY-M11, was filed last November, and has only just been approved, a delay Trinity Delta analysts put down to the FDA's cautious stance regarding novel cell and gene therapies. There might also have been questions over mesothelin - a notoriously dirty target expressed in several healthy tissues. Unlike conventional CAR-T, Carma uses mRNA electroporation rather than viral transfection, and takes fresh apheresis product, with no cell expansion; the aim is to cut manufacturing time from several weeks to a day, and generate transient CAR-T cells that need to be redosed. More details about the trial, in ovarian cancer and peritoneal mesothelioma, will presumably emerge before it begins in the second half.

Selected anti-mesothelin CAR-T studies

Project	Sponsor	Cancer type	Status	Trial ID
CART-meso	University of Pennsylvania, Novartis	Pancreatic, epithelial ovarian, epithelial pleural mesothelioma	Completed (data at AACR 2015)	NCT02159716
CART-meso + Kymriah	University of Pennsylvania, Novartis	Pancreatic	Completed	NCT02465983
RNA Meso CAR-T*	University of Pennsylvania, Novartis	Pancreatic	Completed	NCT01897415
RNA Meso CAR-T*	University of Pennsylvania, Novartis	Mesothelioma	Completed	NCT01355965
Mesothelin-specific CAR-T cells	Memorial Sloan Kettering Cancer Center	Breast	Ending Jun 2019	NCT02792114
Hu-CART-meso	University of Pennsylvania, Novartis	Lung, ovarian, peritoneal, fallopian tube, mesothelioma	Ending Mar 2021	NCT03054298
Hu-CART-meso	University of Pennsylvania, Novartis	Pancreatic	Ending Sep 2021	NCT03323944
MCY-M11**	Johns Hopkins University, Maxcyte	Ovarian, mesothelioma	Starting H2 2018	None

Source: [Clinicaltrials.gov](#); *uses Maxcyte electroporation technology; **uses Maxcyte Carma technology.

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