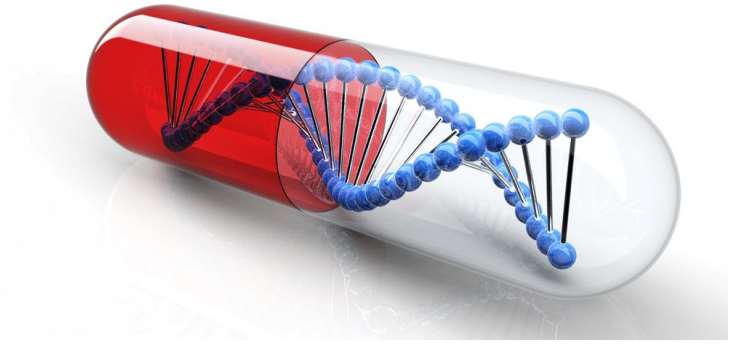
BioSpectrum
the business of Bio & Health Sciences
ASIA EDITION

Esco Ventures announces launch of Carmine Therapeutics

02 September 2019 | News

Carmine Therapeutics is developing novel types of gene therapies that utilize extracellular vesicles (EVs) produced in the laboratory from red blood cells (RBCs) and that solve many unmet medical needs



Singapore based Esco Ventures is pleased to announce the launch of Carmine Therapeutics and execution of an exclusive license agreement for the background technology developed at the labs of Prof Minh Le and Prof Jiahai Shi at the City University of Hong Kong. Carmine Therapeutics plans to establish a site in Cambridge, MA and to expand in the US at the end of 2019.

Carmine Therapeutics is developing novel types of gene therapies that utilize extracellular vesicles (EVs) produced in the laboratory from red blood cells (RBCs) and that solve many unmet medical needs.

RBCEVs are homogeneous, 150 – nanometer vesicles that are also produced physiologically by RBCs as they age. Several features make RBCEVs an ideal delivery vehicle for gene therapy.

1) They are homogenous and can be produced in huge amounts at low cost. 2) RBCs are routinely used for blood transfusion and their secreted vesicles are biocompatible and non-immunogenic. 3) They can be frozen and thawed multiple times for long-term storage and can be administered repeatedly without adverse effects. 4) RBCEVs have a unique natural biodistribution and can deliver cargos to several organs additional to the liver, including bone marrow cells. 5) They can be targeted to specific cells and tissues using covalently attached peptides or single chain antibodies.

Using this proprietary technology, RBCEVs can be loaded efficiently with nucleic acids up to 10 kilobases in size and they can deliver their payload efficiently both to cultured cells and to tissues and tumors *in vivo*. The powerful combination of a robust vector and a unique payload enables to overcome most of the limitations of existing gene therapies in the clinic.

Carmine Therapeutics has exclusively in-licensed and is also developing a comprehensive portfolio of intellectual property encompassing the key aspects of the REGENT Platform and REGENT product candidates.