

Singapore-based CellResearch considering Nasdaq listing

The company holds 41 patents in regenerative medicine, including a topical treatment for chronic wounds

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WHEN CellResearch Corporation (CellResearchCorp) started working on ways to treat hard-to-heal wounds, it was wandering into uncharted territory – using stem cells from the lining of babies' umbilical cords to develop treatments for such wounds.

Today, 15 years and 41 patents later, the S\$700-million company has the technology to bank these stem cells; it has also developed a topical treatment for chronic wounds.

It has now set its sights on the global market, and a Nasdaq listing by 2019.

The company's group chief executive Gavin Tan told *The Business Times*: "The market for advanced wound care is already worth US\$22 billion, and we're confident we can get a good slice of it. We are now embarking on clinical trials, and hoping to be fast-tracked because our data series is promising."

CellResearchCorp is putting its bet on stem cells as a valuable source of material for wound care, especially for the chronic wounds diabetics often suffer.

CellResearchCorp's chief medical officer Ivor Lim said going for an initial public offering would "generate interest and income", and that the income could go towards developing new strategies in the exploitation of cord lining stem cells.

"We are looking at the Nasdaq because biotech and medical research are seen as blue sky investments, where there is a likelihood of the company making profits, as opposed to an established profit track record.

"There are pools of investors in the US who are more savvy and not as risk averse. They are willing to forego proven profit track records in return for a breakthrough," he said.

Risk averse and conservative investors usually miss out on big biotech returns, he added.

Dr Lim said CellResearchCorp wants a "global launchpad" for its treatment drug. Its cord-lining stem cell topical treatment has a high safety margin, and healing is directly observable, which means the US Food and Drug Administration (USFDA) is more likely to grant it fast-track status.

CellResearchCorp is the second Singapore-based biotechnology firm looking at listing in the United States.

The first was Tessa Therapeutics,

which will be looking for about US\$100 million in extra funding later in the year. One way for it to get these funds is to go for an initial public offering at the Nasdaq in the next 12 to 18 months.

CellResearchCorp was founded in Singapore in 2002 by a team of scientists led by chief scientific officer Phan Toan Thang. The team discovered that the lining of umbilical cords, usually discarded after childbirth, contains two types of stem cells – epithelial stem cells (considered a key resource for skin and tissue-lining regeneration), and mesenchymal stem cells (which are key to bone and solid organ repair).

The company's CEO, Mr Tan, said: "This novel and significant discovery was put up for intellectual property protection, and to date, we have patents granted in multiple strategic key territories around the world."

CellResearchCorp uses its patents to enhance collaborations with research groups in Singapore, the US and elsewhere, so that its proprietary stem cell technology can achieve its full potential as a platform to treat a wide range of diseases, including those of the skin, brain, heart and cornea.

The company signed a Memorandum of Understanding with the Agency for Science, Technology and Research (A*Star) on June 1 to work

on further developing cord lining stem cell technology platforms, and identify new ways of using cord lining stem cells therapeutically.

The topical treatment formulated from cord lining stem cells is now undergoing USFDA trials for use on diabetes patients' chronic wounds and other hard-to-heal wounds.

In the US, 85,000 amputations are performed each year on patients with diabetes. These amputations are the result of gangrene in the leg or foot, which typically start off as ulcers on the pressure points. Diabetics have compromised blood supply in their extremities and often do not have sensation there.

Singapore has one of the highest rates of lower-extremity amputations in the world; in April last year, Health minister Gan Kim Yong noted that public hospitals here perform an average of four amputation procedures a day.

In the Middle East, one in five adults with diabetes will eventually need limb amputation.

Mr Tan said: "We believe that we are going to get to the market by 2022, starting with the US market, at which point, we will have a potential revenue forecast of US\$3 billion."

Mr Lim said: "We already see a potential in wound care, especially in burns. But it is the slow-healing wounds that are the most expensive in terms of time and money. The pa-



The chief executive of CellResearchCorp Gavin Tan says the market for advanced wound care is already worth US\$22 billion. He is confident that his company can capture a good slice of it. PHOTO: YEN MENG JIIN

tient will need regular care in a medical facility and be treated by a doctor and nurses at each instance, in addition to which someone needs to take time off work to accompany him to the hospital and back.

"This sequence of events needs to be repeated many times until the wound heals – if it even heals at all. All

this simply adds to the healthcare burden of the country."

CellResearchCorp also owns Calcem Cosmeceuticals, which has a proprietary formulation that encourages skin to regain its youthfulness, and CordLabs, which licenses cord lining stem cell banking technology to cord blood and tissue banks.