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VeriStem wins BioSpectrum award for stem cell technology

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VeriStem wins BioSpectrum Asia Pacific Emerging Company Award



Development of stem cell therapies requires innovative technologies and processes to overcome safety concerns and VeriStem Technologies of Singapore aims to fulfil this industry need. The company, founded in 2009 by Mr W Alan Moore and Mr Keith Wang, is commercializing its proprietary Cellradication processing technologyÃ?Â developed by scientists Dr Miranda Yap, Dr Andre Choo and Dr Steve Oh at Singapore's Bioprocessing Technology Institute (BTI).

BTI is a national research institute funded and managed by Singapore's Agency for Science, Technology and Research. "VeriStem will benefit the life sciences industry by removing barriers to clinical and commercial development of some of the most promising forms of future stem cell therapies. For example, (one barrier is that) human embryonic and induced pluripotent stem cell-based therapies must pass regulatory agency scrutiny surrounding the tumorigenic potential of residual undifferentiated cells," explains Dr Wang, who is now VeriStem's chief operating officer.

The company was invited by the US Food and Drug Administration's Center for Biologics Evaluation and Research to a seminar on the potential of its products in addressing tumor formation by undifferentiated stem cells. The center is responsible for approving regulated stem cell therapies for clinical use and commercial licensure. "With an understanding of the regulatory path forward, the company has devised commercialization and product development plans for its technologies targeting the therapeutic sector," says Mr Moore, president of the company.

VeriStem is also in discussions with potential development partners who may help accelerate commercial introduction, application, and marketing of its products. Under consideration is the potential pairing of one or more of VeriStem's products with existing technologies, products or platforms serving the bioprocessing field. The company is also planning to collaborate with researchers or partner with the industry to explore potential application of its proprietary biomaterials and technologies for destruction of cancer stem cells.

EMD Millipore is one of the collaborators. "We will continue to seek out partnerships with leading companies developing tools and bioprocesses for stem cell therapies, employing embryonic stem cells as well as the induced pluripotent stem cells," says Dr Wang, adding that VeriStem is also evaluating opportunities in the area of cancer stem cells. "We believe that the introduction of this technology early in the research and development phase for emerging stem cell products will allow them to advance more readily to clinical application," signs off Dr Wang, after mentioning that the BioSpectrum award is a "recognition of our company and the potential value of our technology".

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The technology

The Cellradication processing technology selectively targets and kills undifferentiated cells in numerous cell lines, capable of forming teratomas. This process does not introduce any additional toxic agents while killing the undifferentiated cells, thus offering a safety advantage over competing technologies which may introduce cytotoxic agents that have to be removed before being administered to patients or do not kill the undifferentiated cells.

The Singapore-based start-up is developing bioprocessing tools based on this technology to develop and manufacture safe stem cell therapies.

The group is also developing additional technologies that have the potential to broaden the processes available within a regulated manufacturing environment to selectively yield the desired cell populations. VeriStem has generated extensive data detailing the precise mechanism of action, specificity of the technologies, destruction of only the undifferentiated (tumorigenic) cell populations and the conservation of these properties across various accepted bioprocessing formats.