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ASIA EDITION

AseaCyte gets BioSpectrum award for drug discovery efforts

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AseaCyte gets BioSpectrum Asia Pacific Emerging Company of the Year 2013 award for drug discovery efforts



A meeting between Dr Teo Soo Hwang, current CEO of AseaCyte; Dr Lee Hong Boon from Cancer Research Initiatives Foundation (CARIF), a non-profit cancer research institute in Malaysia; and Dr Colin Wilde, chief scientific officer, AvantiCell Science, in 2008 sparked an idea that later became the very core of AseaCyte's offerings.

The company was established in 2010 with cell culture technology as its foundation and the objective was to play a critical role in drug discovery. This Malaysia-based company, which abides by the theories postulated by German biologist Dr Rudolph Carl Virchow in the mid-19th century, has since become a noticeable player in the domain of human disease analysis through its cell culture technology and cell-based analysis services.

Dr Hwang and Dr Wilde realized the significant synergy in the technologies available at AvantiCell and CARIF. CARIF had the know-how on chemical evaluation of natural products and AvantiCell had high-value cell-based technologies for evaluating the materials. They put their potential together to bring a commercial offering to the market in Malaysia.

Funded by initial capital investment from its founding shareholders, including CARIF, AvantiCell Science and Sime Darby Allied Products, it also successfully secured the BioNexus status from Malaysia's Ministry of Finance. AseaCyte has also received CIP500 Commercialization Grant from investment firm Cradle.

Besides providing cell-based services for applications in drug discovery, natural therapeutics, agri-bio R&D, environmental screening, bioactivity and biosafety testing and other customized applications, AseaCyte is also developing testing services. These are based on cells and enabled technologies to generate and maintain cells taken from humans and animals.

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The technology

At Aseacyte, human and animal cells are isolated as cyro-preserved stock and cell populations are characterized with cell marker analysis. Stem cells are grown in culture dishes to mimic what is happening in a whole-body environment and can be used to test a whole range of materials in a predictive way, including the complex mixture of natural compounds that is often found in herbal preparations. Cell identity is confirmed by fluorescence-activated cell sorting, using multiple cell surface markers.

The company has developed expertise in working with human primary cells, which are prepared from human tissues that have been sourced with ethical permission. The firm also stringently complies with international regulations on the use of human tissues in preclinical research and development. AseaCyte has a bank of cells categorized into diseased and healthy models. The diseased model catalogues help in the study of different diseases. For instance, cells from fully-characterized primary cancer cells, each isolated from individual donors and supplied with a full patient history, are stored and supplied. Similarly, cells are classified for studying glioblastoma, colon cancer, lung cancer, respiratory diseases, chronic obstructive pulmonary diseases and metabolic diseases.

Healthy cells can be the catalyst in the study of toxicology in human body, such as hepatic primary stellate cells for liver diseases, renal cortex primary fibroblasts for kidney diseases and skeletal myoblasts for muscle. Healthy human cells from tissues play a critical role in absorption, distribution, metabolism and excretion of candidate pharmaceuticals, natural products, food components and nanoparticles.

Cells are typically supplied with a recommended protocol for cell recovery from the frozen state and with general information on cell performance in culture. AseaCyte's cell biology and cell culture technology are relevant to major human disease areas and could be a key contributor to pharmaceuticals, natural product therapeutics, nutraceuticals and nano-materials industries for predicting therapeutic bio-activity and bio-safety.

"The cells are supplied with quality control data confirming absence of HIV, HBV and HCV human viruses, and mycoplasma contamination through PCR-based methodology and ELISA, respectively," says Dr Teo Soo Hwang, founder member and CEO, AseaCyte.