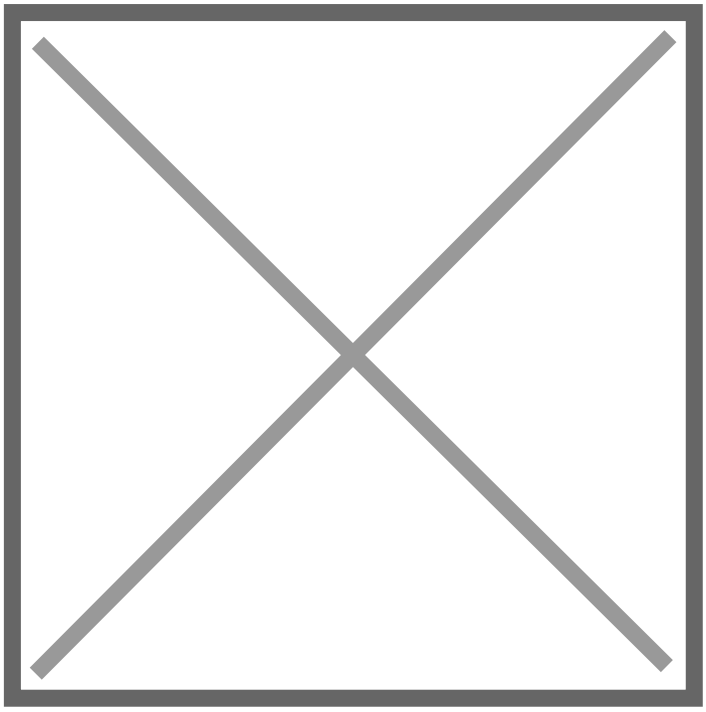
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ES Cell offers hES tech to ReproCELL

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ES Cell International, the Singapore-based stem cell company, has agreed to transfer its key stem cell technology to Tokyo-based ReproCELL, a Kyoton and Tokyo University spin out company, to kick start some exciting practical uses in drug discovery testing and research efforts.

Smart pills, virus chips on the way

Smart pills that know exactly to which part of the human body it should go to deliver the right amount of medicine, a virus chip that carries the information about every virus that exists in the world, a method to diagnose cancer using just blood samples, and manufacturing with microbes are among the latest things under advance stages of development in some of the world's best biotech laboratories.

"The smart pill can contain up to three drugs and will be able to deliver them to the right part," said Dr Regis Telly, director, QB3 and professor at University of California San Francisco (UCSF), while talking about industry-academia collaborations during the 6th Bio Forum and Bio Expo in Tokyo. The smart pill and other such major scientific breakthroughs are going on in three University of California campuses at Berkeley, San Francisco and Southern California.

These three universities have come together to pool their resources under a government program to integrate all their technological resources with over $150 million in research grants. Other major research centers in the region such as California Institute for Quantitative Biomedical Research, California Nanosystems Institute and Institute for Telecommunications and Information Technology, etc., are all part of the innovative program.

"California government decided that it won't put its money into private companies but spend it in university labs to develop cutting edge technological tools," said Dr Kelly. The efforts have been worth it considering the wide range of futuristic products and services under development with additional investments totaling just $200 million.

The two companies signed an agreement to this effect during the 6th International BioForum and BioExpo Japan. ES Cell, started in Singapore by Dr Alan Colman, one of the co-developer of the world's first cloned sheep, Dolly, will transfer its

techniques to make cardiac muscle cell prepared from embryonic stem cells. Dr Colman's company is currently developing a cardiac muscle, called, cardiomyocytes, made from human embryonic stem cells (hES).

"The technology transfer will enable ReproCELL to use the technique in practical applications and lower the cost of pharma R&D and speed up the drug development process," said a Dr Norio Nakatsuji, a key scientist behind ReproCELL and professor at the Institute for Frontier Medical Sciences, Kyoto University, Kyoto, Japan.

Dr Colman told BioSpectrum, that his company, set up with majority venture funding from Singapore government's investment companies six years ago, was concentrating on developing the cardiac muscle and hence offered the technique for other practical applications. This would also open a new revenue stream for ES Cell.

ReproCELL will use the cardio muscle technology to develop models to conduct safety and toxicity studies for various pharmaceutical products under development. The Japanese company has successfully developed stem cell lines from rhesus monkey, which have the same blood group as humans.

The Japanese company, set up by Kyoto and Tokyo University researchers, has been actively looking out for business and technology partners in the Asian region. While the regenerative treatment methods under development at stem cell research companies will take many more years to demonstrate their efficacy, the drug testing models will offer new revenue opportunities for such start up in the biotechnology sector.

Dr Colman said his company was trying to speed up the development process of its cell therapy technique and it may be able to do its first clinical trials on human volunteers only in 2009.

Narayanan Suresh recently in Tokyo