

Local Cord Blood Technology Company sets up State-of-the-Art R&D and Process Development Laboratory Facilities

Cryo-facility launched to store stem cells for the South East Asian markets

26 February 2002, Singapore – CordLife Pte Ltd today launched its new R&D and stem cell processing/ storage facility, located at the Camden Medical Centre. Housing 2,500 sq feet of laboratory and office space, this laboratory facility adheres to the guidelines of the internationally recognized American Association of Blood Banks (AABB). CordLife is now able to store its clients' cord blood samples, and undertake cutting edge R&D, involving stem cell expansion and other stem cell clinical applications, in Singapore.

“The launch of our third regional laboratory facility in Singapore is a significant milestone for CordLife,” said Mr. Steven Fang, CEO and Founder, CordLife. “Since we started operations last year, the team has worked hard to develop in-house capabilities and widen our regional reach. With this new facility in place, CordLife is positioning itself to move beyond just a cord blood banking service provider, and embark upon higher value work, such as processing development and stem cell R&D.”

Since the first Umbilical Cord Blood (UCB) stem cell transplant in 1988, the number of world wide, successful life saving treatments has reached over 1,500¹. With doctors rapidly realizing the benefits of UCB stem cell treatments, this number is expected to increase significantly. CordLife aims to be the leading biotechnology service provider, integrator and know-how company, for cord blood technology and banking services in Asia.

Physical infrastructure

CordLife's laboratory has two main areas. The **Processing and R&D Lab** handles the processing of clients' blood samples. This separates the nucleated cells, which contain stem cells, from the rest of the blood cells. The process ensures that useful progenitor cells are stored. In addition various tests are done on the blood samples, including tests for bacteria, fungi and other infectious diseases.

The second area of the facility is the **Cryo-facility**. This contains state-of-the-art processing and storage systems, for Hematopoietic stem cell samples. These maintain temperatures at -196°C,

¹ Biomed Pharmacother 2001



which ensures that the blood samples are cryogenically frozen, enabling theoretically indefinite storage². The facility is able to house up to 10,000 samples.

CordLife's facility contains numerous equipment and maintains standards, to ensure that processing conditions remain safe and clean. Air within the laboratory facility is HEPA-filtered and there is a positive air pressure gradient within the laboratory. This means that clean air is constantly filtered and renewed, and that no external air enters the laboratory area. In addition, oxygen monitors prevent oxygen depletion, which is caused when liquid nitrogen evaporates, thereby displacing air.

CordLife is currently working with the Singapore Ministry of Health, to meet its regulatory requirements for cord blood banks locally, which also follow the AABB standards. Upon approval, CordLife will begin processing samples in its Singapore facility. The company also currently maintains two other processing facilities in Malaysia (serving the South East Asia region) and China (serving only China).

CordLife's core Research Projects

CordLife has embarked upon various pioneering and novel stem cell R&D projects. This includes:

Ex-vivo Stem cell expansion –With a typical yield of 60-100 ml of UCB, the number of stem cells harvested is usually sufficient for only one transplant in a patient of limited body weight. CordLife is in the process of applying for a concept patent for an original technology that enables *ex-vivo* stem cell expansion. CordLife's scalable method of amplifying stem cells aims to increase the number of stem cells, while maintaining their unique regenerative and differentiation properties. The increase in number of stem cells will lead to multiple use, transplants for patients with higher body weights, and multiple stem cell therapies.

"We are expecting to see results of this technology within the next 6 months, upon which we would file for a full patent in our proprietary technology. Clinical trials will proceed after that," said Dr. Ang Cheng Eng, R&D Principal Investigator, CordLife.

Investigating alternative non-controversial sources of stem cells – While expansion techniques seek to increase the number of stem cells, another solution is to find alternative sources of non-

² Although cryogenic storage is theoretically indefinite, the longest actual storage is 18 years, and counting



controversial stem cells³. Before UCB stem cells were discovered, stem cell transplants used only bone marrow stem cells. However stem cells can be found throughout the body, though in limited quantities. The aim is to find an alternative high stem cell yield source. One potential source that CordLife is investigating further is adipose or fat tissue, which is normally derived from liposuction operations. Other sources include peripheral blood, skin tissue and the placenta.

Long-term R&D plans for the company involve exploring new clinical applications for stem cell treatments (eg. Diabetes, Alzheimer's disease, Parkinson's and genetic cell therapy).

Investments

CordLife is currently in its first round of formal fund raising, which is due to close by end of February. UOB Venture Management has already committed S\$2.5 million. CordLife will embark on its second round of fund raising, to finance its regional expansion, starting in March 02.

About CordLife Pte Ltd

CordLife Pte Ltd is a Singapore-based stem cell technology and regenerative medicine company, and a cord blood banking service provider. CordLife is undertaking a number of R&D projects to identify new sources of non-controversial sources of stem cells from adults. CordLife is currently the leading Asian cord blood banking know how and service provider, with presence in Singapore, US, Switzerland, Malaysia, China, Japan.

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³ CordLife deals only with non-controversial sources of stem cells, which adopt a pro-life approach and are usually from tissues that are typically discarded.