

HB Chen - President, TaiwanBio Therapeutics



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HB Chen, president of TaiwanBio Therapeutics, introduces the innovative stem cell company and elaborates on their patented cell expansion technique for the production of mesenchymal stem cells (MSC). Chen then goes on to discuss the company's innovative pipeline of stem cell therapies.

Can you please begin by introducing the origins of TaiwanBio Therapeutics and its unique technology to our readers?

TaiwanBio Therapeutics was founded in July 2014 by a team of stem cell researchers and biotech business partners. We have since been devoted to the development of human mesenchymal stem cell products by utilizing a proprietary cell expansion technology which was exclusively licensed from National Yang-Ming University and Veterans General Hospital here in Taipei.

This patented technology platform can significantly increase the efficiency of cell expansion and postpone cell ageing during culture while increasing the engraftment rate of mesenchymal stem cells (MSC) after transplantation. We are dedicated to the development of human MSC products and the clinical application of such cell therapeutical products to the treatment of cardiovascular diseases, orthopaedic diseases, immune-mediated diseases and cancers. This outstanding technology platform was both the winner of 2015 Taipei Biotech Innovation of the Year Award and the BioTaiwan 2015 Technology Transfer Cooperation Award.

How would you describe TaiwanBio Therapeutics' business model?

Our aim is to provide a commercialized model of one-stop services to solve the inter-company communication cost and quality retrospective burden caused by the traditional cell therapy business models. As long as any given research or medical institutions proposes the development and cooperation of stem cell preparation requirements for therapeutical applications, TaiwanBio can offer a stem cell expansion solution for the use of research and development, preclinical, and clinical stages of said therapies. Therefore, the development time of stem cell therapy for domestic disease indications can be greatly reduced along with the related costs and unit demands. Overall, our offering will be a great help to the development of cell therapies within Taiwan's domestic industry.

In addition to your service offering, TaiwanBio Therapeutics also has its own innovative pipeline. Can you walk us through these assets?

So far, our first innovative MSCs therapeutic product, Biochymal®, an intramuscular (IM) injection treatment for lower limb ischemia. The occurrence of vascular disease around the lower extremities is often caused by atherosclerosis and stenosis or acute embolism caused by acute thrombosis. When the obstruction is severe, pain is the key symptom of the majority of patients. Currently, medical teams in various countries in the world are striving to develop characteristics for regenerative medicine. MSCs can be a solution as they secrete angiogenic factors, which in turn promote angiogenesis – growth factors that play a role in vascular repair of wounds after trauma in healthy adults. Thus, Biochymal® has been close up to the completion of a phase I/IIa trial approved by TFDA. Our next step is to apply for Investigational New Drug (IND) approval of clinical phase II trials.

Our second product, Chondrochymal®, is approval by TFDA and is under a phase I/IIa trial for knee osteoarthritis treatment. Knee osteoarthritis is a disease that mainly affects joints cartilage, and which is primarily caused by aging, this is a major issue in Taiwan's healthcare environment. The top of the cartilage in joints with osteoarthritis ruptures and wears out, which causes the bones under the cartilage to be exposed and rubbed against each other, and thus bring problems like pain, swelling, and a reduction in Range of Motion (ROM), then in turn deforms the joints, or joint edges. Chondrochymal® is a new drug leveraging allogeneic stem cells developed for therapeutic use, of which the composition is human bone marrow MSC for intra-articular (IA) injection.

Finally, our third product in the pipeline is ImmunoChymal[®], used for the treatment of graft-versus-host disease (GvHD) - a medical complication following the receipt of transplanted tissue from a genetically different person. ImmunoChymal[®] is an intravenous (IV) injection still in the preclinical phase of development.

What are your next steps for TaiwanBio Therapeutics?

Hopefully, BioChymal[®] and ChondroChymal[®] will both proceed smoothly through the necessary clinical trials and become commercially available to all patients in need. We are also excited to see how ImmunoChymal[®] will progress through its development. In addition to substantiating our development of cell therapy product in other indications, we are also moving forward in the process of developing biological derivatives from manufacturing MSC for application in aesthetic and regenerative medicine, and manufacturing of stem cell products or derivatives to the requested specifications for other potential business customers.

Besides, in order to provide the highest quality cell therapy products. We made a strategic partnership with Medigen Vaccine Biologics Corporation (also known as MVC) working together to integrate the cell therapy industry by assembling the Cell Processing Centre (CPC) in the standard of PIC/S GMP. The CPC will provide CDMO services for the industry and will be the largest and highest-quality cell processing centre.

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