



HELPING LOCAL STARTUPS SHINE ON THE WORLD STAGE

A LIFE SCIENCE INNOVATION PARK IN BEIJING is helping startups find international success in areas from gene therapy to synthetic biology.

Housing more than 500 research institutes and companies, the Zhongguancun Life Science Park, in Beijing's Changping district, is a hub for innovation. Since opening two decades ago, it has helped scores of biotech researchers take their work from the lab to the marketplace, putting home-grown startups on the map.

One such company is InnovecBio. Founded in 2020 by a group of medical experts from leading universities such as Tsinghua, Columbia and Texas A&M, InnovecBio focuses on gene therapy. Until now, delivering therapeutic DNA or RNA into host cells in humans has proven to be a major challenge, posing targeting and toxicity issues.

"Our mission is to develop a safe, accurate and effective delivery system that can be used on humans," says its CEO and founder, Cheng Wang.

InnovecBio has two main delivery platforms: an adeno-associated virus (AAV) vector

and a non-viral lipid nanoparticle (LNP) vector. InnovecBio has begun to secure the core patents for both delivery platforms and is currently using them to conduct *in vivo* studies.

NEXT STEPS

For example, the company has developed an AAV vector for injection into the eye. Its method effectively targets retinal photoreceptor cells for the safer treatment of inherited blindness. Similarly, InnovecBio's LNP vector, designed to target the liver and spleen, was found to have lower toxicity than standard LNP vectors.

The challenge now, Wang says, is to translate pre-clinical data into human studies. To achieve these goals, InnovecBio has attracted 180 million yuan (US\$25 million) in investment so far. Wang believes a further US\$100 million can be raised in the next few years if the company's scientific ambitions are realized.

While InnovecBio tackles the

challenge of genetic diseases, Bluepha is working towards a more sustainable future. Founded by Haoqian Zhang, of Peking University, and Teng Li, of Tsinghua University, Bluepha is using synthetic biology to create new materials. Bluepha primarily focuses on polyhydroxyalkanoates (PHAs), a class of natural materials that are biodegradable. PHAs are produced by a variety of microorganisms through microbial fermentation in a process that can be adapted to industrial-scale production.

"For every kilogram of our biodegradable material product, Bluepha®, used in place of conventional plastics like polyethylene, you can reduce the emission of around two kilograms of petroleum-based carbon dioxide," says Zhang, Bluepha's co-founder and CEO, adding that it is one of very few products from China that has met the European Union requirements of food packaging materials.

Since it was founded in 2016, Bluepha has attracted roughly US\$200 million in financing. Though founded in China, the company is now international, with

customers and partners in Fortune 500 companies worldwide.

SECRET TO SUCCESS

The company's secret to success, Zhang says, is its cross-disciplinary team from more than 30 different academic backgrounds. "The process of synthesizing biological material is as complicated as building a car or a spaceship," Zhang adds.

Zhang also credits the conducive environment at Zhongguancun Life Science Park, which he describes as "a robust industrial hub with the highest density of talent in northern China." InnovecBio was likewise drawn to Zhongguancun by its facilities, resources and policy support, which made it possible for the company to grow quickly, Wang says.

These companies are just two examples of the kind of innovation that makes Zhongguancun Life Science Park a great place to do business, with many new startups likely to follow in their footsteps. ■

▲ (Images, from left to right) Realising the potential of gene therapy requires delivery platforms that are safe, accurate and effective. Zhongguancun Life Science Park's world-class facilities have enabled Chinese startups to launch their companies globally.

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