

# Singapore biotech firm eyes expansion in veterinary sector

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A Singaporean biotechnology company, which played a crucial role in helping to produce a potential vaccine to combat the deadly porcine epidemic diarrhea virus (PEDV), is ready to expand in the veterinary sector.

ACM Biolabs' proprietary artificial cell membrane (ACM) technology helped [Sanphar Asia](#) create a vaccine to combat PEDV. Sanphar's trials investigated the efficacy of using ACM technology to provide immunity against PEDV virus in pigs. The companies are now in negotiations to develop a commercial vaccine based on the results from trials in Thailand.

ACM Biolabs is a synthetic biology company which uses its ACM technology platform to allow clients to develop diagnostics, therapeutics and vaccines targeting novel membrane proteins. The company was founded in 2013.

The company's chief operating officer is Dr Peter Moran. Speaking from the firm's office in Singapore he told *Animal Pharm* ACM Biolabs would like to significantly expand its work in both drug discovery and vaccine development.

"Most of our work to date has been in human medicines but since the technology is equally applicable to veterinary cures we need to be more active in that area, and Sanphar is helping us here. The relationship with Sanphar has been a natural and very good partnership for us," said Dr Moran.

"The Sanphar vaccine was our first commercial success in the veterinary field. However, it is the first time that our technology has been tried as a direct vaccine so to get such a success on the first try is extremely encouraging. This gives us confidence that this is just the first of many such vaccines which can be developed using our technology.

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"We see our technology as a very broad platform and we recognize that we cannot address all areas by ourselves. Therefore, our strategy is to partner with leading players in various pharmaceutical market areas. Our hope is that they commercialize their products using our technology. We intend to develop our leadership in this area and continue to aggressively patent our technology."

Dr Moran believes that in 10 years, the company has the potential to be a global player in the veterinary sector although perhaps one that most people have not heard of. The company is discussing long-term commercial partnerships and joint ventures to ensure that the ACM technology becomes ubiquitous.

## **Membrane protein strategy**

The company's strategy so far has been to provide pharmaceutical companies with tailor-made membrane protein solutions. The ACM technology allows customers to develop new drugs targeting membrane proteins which are hard or "difficult-to-express" using standard means.

Membrane proteins can be awkward to work with because they are hard to extract from the cell walls or to produce while remaining stable and active. The ACM method uses synthetic biology approaches, to embed membrane proteins within the wall of polymer vesicles.

"We have shown that the membrane proteins in our ACMs are stable and active. This means that they are very useful for drug discovery for pharma companies or directly as vaccines," said Dr Moran.

"We chose Singapore as our base because the research infrastructure in the country for biomedical work is outstanding, this means that not only the equipment and technical support for sophisticated equipment is readily available, but more importantly there are qualified research staff who we can hire," said Dr Moran.

"Singapore is also a good place to live so we can attract talented people to come here. In addition, the corporate regulations are very transparent and business friendly so it is an excellent place for us. At the moment it is our only facility but we are expanding rapidly so perhaps in the future that will change."

The private company currently has 10 staff – virtually all are scientists with either doctorates or master's degrees. The company is actively looking to increase its expertise and is currently conducting interviews with additional scientists.

ACM Biolabs is majority owned by the founder Dr Madhavan Nallani, whilst the other shareholders are strategic investors and a government body. Dr Nallani has been developing ACM technology for over 10 years. Although compact the company said it has sizeable human health pharma customers among its clients.

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