

Pacific GeneTech seeks extra out-licensing deals for adjuvant tech

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Hong Kong-based veterinary vaccines specialist Pacific GeneTech (PGT) is hoping to secure further out-licensing deals for its clinically-proven Hercules adjuvant delivery system.

PGT told *Animal Pharm* it has global rights to Hercules – a modified chitosan adjuvant and delivery system with applications in aquatic species, poultry and mammals.

Hercules is a universal adjuvant/delivery system designed to deliver selected antigens to the immune system's antigen-presenting cells. According to Cindy Tsang, the firm's director of business development, the technology is particularly effective in boosting mucosal immunity in orally- or nasally-administered vaccines.

"Hercules was originally developed by the Poultry Health Laboratory at the University of Arkansas specifically to enhance the immune response to inactivated vaccines," she said. "Hercules can potentially be used in a wide range of antigen packages addressing a range of pathogens, especially where mucosal immunity or oral and nasal delivery is important."

Ms Tsang said one of the technology's key advantages is its safety. In contrast to many other adjuvants, PGT's system does not induce inflammation at the site of administration – even when injected. She also pointed out the adjuvant's low cost to produce and its stability under normal storage conditions.

"There are many adjuvant/delivery system technologies on the market but Hercules has been designed very specifically to allow oral or nasal administration of vaccines when required and to safely promote immunity in the mucous membranes of the respiratory and gastro-intestinal tracts," Ms Tsang explained."

"We are interested in out-licensing Hercules to other vaccine makers looking for an adjuvant/delivery system enabling oral or nasal delivery of a vaccine to promoted mucosal immunity which protects the animal from infection."

The firm said successful trials have been conducted with a commercially-available oral H5N1 vaccine adjuvanted with the patented Hercules system, for which a license agreement is now in place. Ms Tsang added: "We have also entered into a second license agreement for a Coryza poultry vaccine. Further trials are on-going, including testing Hercules in swine vaccines and fish vaccines."

Building on cross-protection vaccine pipeline

Founded in 2009, PGT is also commercializing its Aegis <u>cross-protective vaccines</u>. The company has built a pipeline of vaccines developed using the Aegis platform, which is also exclusively licensed from the University of Arkansas.

PGT believes its offering of vaccines brings a new cross-protection benefit to the veterinary vaccine scene. While existing vaccines only offer protection against strains present in the vaccine, Aegis vaccines offer broad spectrum cross-protection. This means the need for multiple or polyvalent vaccines is reduced and the problem of mutating strains is addressed.

Additionally, Aegis vaccines can deliver live or inactivated vaccines orally via water or spray. Traditionally, inactivated vaccines are only available as injectables. This means they are more labor-intensive and cost-restrictive.

The company's lead vaccine targets Salmonella and Campylobacter in poultry. According to PGT, this vaccine is expected to obtain USDA approval in 2019 and should launch in the US.

The firm said an additional vaccine targeting Salmonella and *E coli* in swine is completing efficacy trials and is expected to be out-licensed to a partner in 2018. The company also has an inactivated *Eimeria coccidiosis* vaccine ready for USDA submission in early 2018. According to PGT, this vaccine will be the only inactivated offering for coccidiosis on the market.

