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Altamira Therapeutics Partners with Univercells on mRNA Vaccine Nanodelivery

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Altamira Therapeutics, a company providing nanoparticle-based technology for efficient RNA delivery to extrahepatic targets, announced that it has entered into a collaboration agreement with Univercells Group to evaluate the use of the Company's proprietary SemaPhore platform for the delivery of mRNA vaccines. Univercells is a global life sciences company creating platforms for developing and manufacturing biologics, including mRNA vaccines and therapeutics, in a simple, scalable and cost-efficient way.



Under the terms of the agreement, Univercells will test *in vitro* and *in vivo* a proprietary mRNA vaccine delivered with Altamira's SemaPhore nanoparticle platform. Should the experiments prove successful, Univercells and Altamira intend to discuss and negotiate a commercial agreement for the development and manufacturing of nanoparticle-based mRNA vaccines using Univercells' production platform.

"We are thrilled to initiate this collaboration with Univercells to explore SemaPhore as a delivery vehicle for mRNA vaccines", commented Covadonga Pañeda, PhD, Altamira's Chief Operating Officer. "SemaPhore has shown to be an efficient delivery vehicle for therapeutic RNA in many different disease models. With this collaboration we will explore for the first time its potential utility in delivering mRNA vaccines. Current delivery vehicles used in the field of mRNA vaccines suffer from significant rates of mRNA loss during cell entrance; in addition, they may cause local or systemic side effects. SemaPhore reduces mRNA loss during cell entrance, which may allow for using lower doses. This feature, together with its favorable tolerability profile could make SemaPhore a compelling alternative to conventional delivery vehicles."

"We're delighted to be partnering with Altamira to explore better ways to deliver mRNA to patients," said José Castillo, PhD, Chief Technology Officer of Univercells. "mRNA vaccines, and mRNA in general, have proven to be a game-changer in how we prevent, treat, and cure diseases in a range of fields from oncology to infectious diseases. To unlock its full potential, however, we need constant innovation to make mRNA products more effective, efficient, and affordable. One key step is to develop platforms that use lower doses of mRNA."

mRNA vaccines work through priming the body's immune system to recognize and destroy a pathogen. The vaccines introduce a small piece of the target pathogen's proteins into specialized cells in our bodies that can produce the full protein. These cells then manufacture the target protein in small amounts triggering the production of specific antibodies to destroy any entity that has the same protein, such as a virus. Although our bodies break down the vaccine's mRNA very quickly, the antibodies linger so that we are protected should we contract the virus in the future.