

Greffex Transforms Vaccine and Gene Therapy Work



The Greffex team onsite at the Fitzsimons Innovation Community in 2022.

Greffex™ is a privately held, multi-national company that developed a novel genetic platform for the development and production of vaccines. The GREVAX™ Universal Platform delivers vaccines in a faster, more affordable, and more efficient manner in as little as four weeks.

Colorado BioScience Association President and CEO, Elyse Blazeovich, asked Uwe Staerz, Chief Scientific Officer of Greffex, CBSA's Key Questions for Life Sciences Innovators.

Q: Tell us about your company or organization.

A: Greffex was originally founded as a transplantation company. Our team worked on methods to make transplant tissues fully acceptable to the recipient without the need of general immune suppression. Although this approach proved highly effective in the animal, we realized that the timeframes needed to complete clinical trials were not feasible for a small biotechnology company. Therefore, we moved our focus to producing vaccines and gene therapy vectors.

Q: Describe your team culture. How does your culture shape what your company or organization produces or offers?

A: We depend on the collaborative work of our scientists, who must acquire a very broad knowledge of the underlying science and technologies. Our organizational structure is rather flat and depends on the strong commitment of our employees.

Q: What are you working on right now?

A: Greffex's novel gene transfer technology is based on an optimized adenoviral vector that is fully deleted of all adenoviral genes. Production does not rely on a helper virus. It is modular in design and allows for different applications.

"We are currently working on avian influenza vaccines, universal influenza vaccines, multivalent COVID vaccines, and Usher gene therapy."

(i) Avian Influenza Vaccines: The so-called bird (avian) influenzas have a high threat potential with a high lethality. Under a contract with the NIH, Greffex produced an avian influenza vaccine whose highly protective function was demonstrated in the animal. It is being readied for clinical trials.

(ii) Universal Influenza Vaccines: Greffex has developed universal influenza vaccines under a contract of the NIH that have been designed to provide protection against different influenza variants. They will provide protection prior to its outbreak.

(iii) Multivalent COVID Vaccines: We developed multivalent vaccines that besides the S spike protein, immunized against stable COVID antigens and therefore remained protective against COVID variants. A multivalent COVID vaccine is being readied for clinical trials.

(iv) Usher Gene Therapy: Usher blindness is a relatively common genetic disease. The defective gene that must be replaced by gene therapy is very large. Therefore, only Greffex's gene transfer vector has the necessary payload to deliver the cure. Supported by a grant from the National Institutes of Health, Greffex developed genetic constructs. They are being tested at the University of Utah.

Q: How will your work save or change lives?

A: Greffex's vaccines will protect against deadly infections. Our gene transfer

vectors will provide therapies against genetic diseases.

Q: How has COVID-19 impacted your company or organization?

A: Greffex maintained our research and development programs throughout the pandemic. As a genetic engineering company, it was not feasible to move to off-campus work. Supply issues have slowed down some of our progress. Yet, our team was also able to secure funding for a major COVID vaccine program.

"Our team was also able to secure funding for a major COVID vaccine program."

Q: CBSA champions a collaborative life sciences ecosystem because we are #strongertogether. How has being an active participant in our life sciences community supported your success?

A: Greffex has had numerous active collaborations with local universities, especially with Colorado State University. Initially, we were housed off-campus. When the opportunity arose to become a member of the Fitzsimons Innovation Community, we took the chance to be closer to related enterprises and the University of Colorado Anschutz Medical Campus scientific community.

Thank you to our sponsor: