

Applying Complement Immunotherapy to Autoimmune Disease and Cancer Targets



Dr. Cedric Francois
Co-Founder &
CEO/President

CEOCFO: Dr. Francois, would you tell us the concept at Apellis?

Dr. Francois: We are a company that focuses on a new field of research that we call complement immunotherapy. Our scientific principles are rooted in the fact that the complement system, which is generally considered a part of innate immunity, and which is one of the oldest systems within our immune system, plays an important role in modulating adaptive immunity. When we mount an inappropriate immune response that becomes self-perpetuating - as is the case in cancer and many immune conditions - inhibiting complement we believe could “reset” your adaptive immune state and thus potentially correct inappropriate immune responses.

CEOCFO: Has the medical community paid attention to your complement immunotherapy approach or is it a newer approach?

Dr. Francois: It is a new approach. Immunotherapy in general has seen a great deal of traction in cancer recently, and the scientific tenets are quite similar. In addition complement has had its own day in the sun in the past couple of years a large part due to Alexion pharmaceuticals, which developed a great drug product called Soliris. Soliris was as far as we know not designed take advantage of immunomodulatory properties. However, in clinical trials has significant carry-over properties that we believe are rooted in complement’s immune modulatory properties.

CEOCFO: Why did you look in this direction?

Dr. Francois: We initially had another company called Potentia pharmaceuticals. Potentia developed the first complement inhibitor for macular degeneration. Complement inhibition came to prominence in macular degeneration recently and is potentially the first mechanistic intervention that can slow down that disease. When we started working on complement, we became believers that complement inhibition would be beneficial in this disease not just by protecting the retina but also by modifying the pathogenic mechanisms that drive the disease. Our faith in this mechanism was strengthened by the findings of our Phase 1 clinical trial in macular degeneration, in which we would give a single injection with our experimental drug and see remarkable carry-over effects. Even though the study was not powered to assess this observation and the findings were anecdotal, it encouraged us to further explore this mechanism. When we started Apellis we then went out and found other clinical trials with complement inhibitors that had shown similar results. Most notably Soliris, when tested in two immune conditions called neuromyelitis optica and myasthenia gravis, showed similar carry-over effects that would indicate that complement inhibition might correct a dysregulated immune state.

CEOCFO: How does COPD fit into the picture?

Dr. Francois: We have come to believe that Chronic Obstructive Pulmonary Disease, aplastic anemia, macular degeneration and probably many other diseases are quite similar as far as the underlying immunology is concerned. If you asked me what the principle difference between COPD and macular degeneration is, I think my answer would be the location where the disease takes place. We usually target a disease for a set of disease-specific considerations. In COPD the first consideration was its important unmet medical need. COPD is the third leading cause of death for which no disease-modifying therapies exist, and we believe that complement inhibition might address this need. A second important consideration was that we can administer the drug locally, which reduces the odds of undesirable side effects. Last but not least, working in COPD allows us to look at what goes on immunologically in the lungs by looking at bronchial fluids, induced sputum and other tests that could lead to either a companion diagnostic or at least bio-assays to better understand our science.

CEOCFO: Are you seeking partnerships or investors?

Dr. Francois: We have raised a total of approximately \$45 million. Our lead investor is Morningside Ventures in Massachusetts. We are interested in partnering our COPD once we have established proof of mechanism, which we expect to be ready in the first half of 2016. Our other programs we intend to develop and possibly market ourselves.

CEOCFO: What is happening today at the company?

Dr. Francois: We focus on running our clinical programs with a small team and do most of our work by contract. We have a total of seven or eight clinical trials on three continents with two active pharmaceutical ingredients in three formulations. We focus on making sure that operationally things stay on track. We are fortunate to have very good investors. My main concern, as every biotech CEO will tell you, is to make sure that the human and capital resources are available to execute our strategy and to give our drug candidates a chance to prove themselves.

“What we have seen happening with immunotherapy in cancer the last couple of years and which has spawned a renaissance in cancer research, is bound to happen in auto-immunity next. We like to think of Apellis as a pioneering company in this exciting new field.”- Dr. Cedric Francois

CEOCFO: Why does Apellis stand out?

Dr. Francois: We think Apellis is one of the early companies to take a deep dive into the potential of immunotherapy in auto-immune diseases. What we have seen happening with immunotherapy in cancer the last couple of years and which has spawned a renaissance in cancer research, is bound to happen in auto-immunity next. We like to think of Apellis as a pioneering company in this exciting new field.

Interview conducted by: Lynn Fosse, Senior Editor, CEOCFO Magazine

For more information visit: www.apellis.com

Contact: Cedric Francois +1(502)295-4607 cedric@apellis.com

Apellis