

**Focused on Creating Proprietary Therapeutic Drugs Against Cancer and Infection, Altor BioScience Corporation Develops Breakthrough Immunotherapies Based on their Proprietary Technology Platforms**

**Healthcare  
Biotechnology**

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**Dr. Hing C. Wong  
President & CEO**

**BIO:**

Dr. Wong has served as the President & CEO of Altor BioScience Corporation (Altor) since its inception in 2002. Dr. Wong has over thirty years' experience working in the biotechnology and pharmaceutical industry. Prior to joining Altor, Dr. Wong founded Sunol Molecular Corporation (Sunol) in March 1996, becoming its President and Chief Executive Officer. He engineered the acquisition of the plant technology-based company, Xios, in April 2002 and the spin-off of Altor in August 2002. In 2004 and 2005, Dr. Wong led the successful sales of Su-

lunol's anti-shigatoxin program to Thalion Pharmaceuticals and the tissue factor antagonist program to Tanox Inc. After the sales of Sunol assets, he resigned from the executive office of Sunol to fully focus on development and advancement of Altor. During his tenure with Sunol and Altor, he raised over \$70 million in capital via equity and debt placements, set up many major pharmaceutical/biopharmaceutical partnerships/collaborations, and managed multiple multi-center clinical trials. He is the principal investigator of multiple NIH grants, an inventor of numerous issued U.S. and worldwide patents, and the corresponding author of many scientific papers in peer-reviewed journals. He was a member of the Board of Directors of Sunol and Biosynex, Inc. and was also on the Board of Trustees for the Rumbaugh-Goodwin Institute for Cancer Research. Dr. Wong spearheaded the merger of the Rumbaugh-Goodwin Institute for Cancer Research and Nova Southeastern University. Dr. Wong was the Director of the Department of Microbial Genetics at Cetus/Chiron Corporation from 1989-1992 and the Director of the Biology Skill Center of Baxter International from 1992-1996. During his tenure with Cetus/Chiron and Baxter, he made major contributions to the development of the approved drugs Proleukin® and Betaseron® and led the product development team and commercialization of Innovin®, Troponin I, Glucose Isomerase and Cellulon®. He received his Ph.D. degree in Microbiology and Immunology at the University Massachusetts, Amherst and conducted postdoctoral studies at the University of Washington in Seattle.

**About Altor BioScience Corporation:** Altor is a venture-backed, privately held biopharmaceutical company developing breakthrough immunotherapies for treating cancer, viral infections, and inflammatory diseases based on its proprietary technology platforms. Altor currently has two products in clinical development, ALT-801 and ALT-836, and one product in pre-clinical development, ALT-803.

Altor's lead product ALT-801, a T-cell receptor fused with Interleukin-2, is a targeted immunotherapeutic developed from the STAR™ (Soluble T-cell Antigen Receptor) technology for cancer. ALT-801 concluded a Phase I/IIa clinical trial in patients with metastatic malignancies in 2009 and a Phase II trial for patients with metastatic melanoma in 2012. This promising immunotherapeutic for cancer is currently in Phase II trials to evaluate its safety and clinical utilities for treatment of patients with advanced or metastatic urothelial cancer, superficial bladder cancer, and multiple myeloma. ALT-801 is also being evaluated in a Phase I trial in combination with donor lymphocyte infusion in patients with acute myeloid leukemia.

The second product in clinical development is a monoclonal antibody-based Tissue Factor antagonist referred to as ALT-836. Partnered with Genentech, ALT-836 has completed a second multi-center, randomized Phase II trial for treatment of patients with Acute Respiratory Distress Syndrome and Acute Lung Injury, a life-threatening, systemic inflammatory disease. This study was

supported by a Phase II SBIR grant from the National Heart Lung and Blood Institute (NHLBI). Furthermore, ALT-836 has also completed a Phase I/IIa clinical trial, in combination with gemcitabine, for treating patients with refractory solid tumors.

Altor is also at the forefront of Interleukin-15 (IL-15) based immunotherapeutic technology. IL-15 was noted by NCI as one of the top immunotherapeutic drugs most likely to cure cancer. As a leading developer of an IL-15 based drug platform, Altor has created a proprietary IL-15 superagonist complex called ALT-803 with increased ability to bind IL-2R $\beta$  and enhanced immunostimulatory activity. With detailed mechanism-of-action and tumor efficacy studies in place, Altor is engaged in multiple promising research collaborations in oncology and also viral indications. Additionally, Altor is initiating clinical trials with ALT-803 to treat metastatic melanoma, relapse of hematologic malignancy after allogeneic stem cell transplantation and multiple myeloma.

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

**CEOCFO:** Dr. Wong, what is the concept at Altor BioScience Corporation?

**Dr. Wong:** We are a company formed to create proprietary therapeutic drugs against cancer and infection. That is really the goal of the company.

**CEOCFO:** What is the idea that you have that is different than others? How are you going about it?

**Dr. Wong:** We create immunotherapeutic drugs rather than small molecule or chemical drugs. They really promote the immune system to fend off cancer or infection. Those immune responses are durable compared to the chemical drugs. Therefore, the idea is to use immunotherapeutic drugs to get curative treatment for the patient for cancer and infection. That is the target. That is our goal. Furthermore, we are using targeting molecules to deliver the drug to the right place and to make it more effective and lower the toxicity. We have a really good

platform technology of a targeting method. We call it the STAR™ Platform Technology. Those are the ones that we are using for targeting. We have also just made an announcement that we have another big platform technology that we call the IL-15. ALT-803, a lead drug from this IL-15 platform, is basically a super potent protein fusion complex. We can also use it for the treatment of cancer, infection and at the same time use it to create targeting molecules such as for infection and cancer. The STAR™ targeting technology is different from antibodies. Antibodies only recognize targets on the surface of a cancerous cell or an infected cell. However, our technology is very, very different. STAR™ are single-chain T-Cell receptors. This kind of targeting technology basically does not require that the targets are on the cell surface at all. The target could be on the cell surface or be inside the cell. Therefore, this platform is even more powerful than today's use of antibodies for targeting. If you go to our website you will see why this kind of molecule will work for targets inside the diseased cells and what we want it to target. However, it is really highly differentiated from the existing technology using antibody based targeting technology.

**CEOCFO:** Has the medical community been looking for a molecule that could work in so many different areas? Is it something that people did not think could be done?

**Dr. Wong:** In the past people did think that it could not be done. I think that we created a technology now so that it can be done. The lead molecule, ALT-801, developed using the STAR™ technology is actually in the clinic in Phase II trials for solid and hematological malignancies and is very efficacious for one of the cancer implications that the USFDA has not approved any drug for in the last twenty years. Therefore, I think that the technology is coming into light now, to demonstrate to the world that this is the kind of technology you can use for cancer treatment and meeting unmet medical needs such as in bladder cancer. That is the area we have most interest in now. We really

have a fantastic drug for that. For this drug there are two things: one is that it would benefit the people who have metastatic bladder cancer, but at the same time prove that our technology is really working.

**CEOCFO:** Why was bladder cancer the first target?

**Dr. Wong:** Bladder cancer is our big target because ALT-801 works so well in humans. There is almost no drug under development by our competitors, because no one has successfully developed one for this indication for patients after they have failed the current standard-of-care chemotherapy. Now we have a drug that can get a really good response in humans and there is essentially no meaningful competition out there, so we are focused on this particular technology and this indication. It is not just for bladder cancer; I think this kind of drug can be used for many, many different types of cancer and infection.

**CEOCFO:** Has the medical community been paying attention to what you are doing?

**Dr. Wong:** I think they are. You can actually see that we have gotten a lot of funding from NCI, the National Cancer Institute that is part of the NIH. They are funding the clinical trials and they are funding our research for all of these years. We have more than a dozen of leading research institutes as our collaborators. I have got Emily Jeng here, because Emily is also the person responsible for the business development and alliance management of IL-15 platform technology, a revolutionary technology to create powerful non-target and targeted immunotherapeutic. We get a lot of attention on this IL-15 platform technology now. Our technology has a far reaching impact in the medical community. We are also very proud of getting funding from the FDA for the development of ALT-801 as an orphan drug for melanoma and kidney cancer. Again, we are becoming well recognized by the medical and scientific communities and we really have some revolutionary technology here and could benefit people who have cancer or life threatening infections.

**CEOCFO:** When you started, what made you think it would work? Why did you think this was the direction to go?

**Dr. Wong:** At that time we already realized the future development of drugs would be targeted drugs. I think the old type of approach is coming to an end. I think that targeting is the way to improve the efficacy of the drug and also will target it to people who only have the right genetic make-up the people who would benefit, rather than giving a drug to people that may not benefit at all from it. In these days, the medical community is already really focused on targeted drugs. I truly believe that targeted drugs are the future. Another thing that really separates us is that our drug is not really a direct killing of the cancer cell or direct killing of the infection. Instead, we promote the immune system in the human body and use the human body's immune system to kill off the cancer cell and the infection. This kind of drug is more long lasting and with less toxicity. The immune system of the patients actually gets stronger, not like the chemical drug and a lot of chemotherapy types of drugs will make your bone marrow decrease and weaken the patients' disease-fighting capabilities, which leads to infection and so on. However, our drug is the opposite. On one hand, it promotes the immune system to get rid of the cancer or infections, at the same time it makes the patient stronger. Therefore, the treated cancer patient would not come down with infections or that kind of side effect. Altogether, I think that really sets aside our targeted immunotherapeutic drug from the conventional chemical drug.

**CEOCFO:** What is ahead for the next year or two?

**Dr. Wong:** What is ahead for us? I think we are going to be finishing up our lead clinical trial. We already have six clinical trials going on with all types of drugs in development. However, our lead drug ALT-801 is getting very close to finishing the Phase II study. Our first strategy is really to take our drug to foster a licensing relationship with a big pharmaceutical company

and let the pharmaceutical company do the last phase of the clinical trial and getting regulatory approval from the FDA for commercialization. That is because we are really a small company and just do not have the financial resources to finish the Phase III trial and to get it to the market. Therefore, we are going to form a really sizable partnership with the big pharmaceutical company and further develop the drug. Then we can get a return for our shareholders, because we would benefit by the up front, milestone payments and eventually royalty payments from an approved drug. We are talking about big payments; we are not talking about the small payments on that. That is what we are going to do. Then we give that back to the shareholder so that they have the return at the same time and the company could grow while we get the drug through the approval process

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– Dr. Hing C. Wong

and eventually benefit by the royalty payments from our approved lead drug. Then we will be using that to become profitable; using this approach and we can fund the other drugs in the pipeline for further development. We may go all the way on our own to get a big drug on the market; for instance, like the ALT-803 mentioned on the website and also the press release. If we become profitable using the lead product licensing and all of that, we can direct what we get back into the ALT-803 program and develop it all by ourselves and become a fully integrated pharmaceutical company or biotech company that way.

**CEOCFO:** Then, there is a lot ahead for you?

**Dr. Wong:** Yes! We are very excited, because there are very few biotech companies that have the technologies like what we have. We have a diverse and very strong product pipeline. Therefore, we were able to use that to formulate this out-licensing of the lead

product approach to really get us to become profitable and to really get returns for the shareholder, at the same time using the capital from lead-product licensing to fund future product development and commercialization. For instance, NCI NIH listed IL-15 as the most likely immunotherapeutic drug to potentially cure cancer, so then we can actually take it all the way on our own and make it as a big drug on the market. IL-15 is so promising as a drug and that is why we are getting so much attention from all of the big research and medical communities. Now people want to join in the clinical trial for our IL-15-based ALT-803. Also, NCI/SBIR labeled Altor as a “Success Story” on their website.

**CEOCFO:** It is very exciting!

**Dr. Wong:** Yes, it is very exciting! We are very small. We only have about twenty-five employees here. However, we are very productive. We have many proprietary platform technologies and revolutionary products in clinical trials. We are a venture backed company, which is very unusual in South Florida; there are not that many here. We are the

pioneer of the biotech companies in South Florida, anyway. For now, as an immunotherapeutic drug developer, we are far more advanced than many of our peers in the field. We are competitive and well recognized at the national level. If you go to our website you will find two things to demonstrate this point, not just ourselves. We think we are good and I explain that we are great. Number one; NCI/SBIR named our company as a success story on their website site. As I said, we are really, really proud of this. We are thrilled that NIH would do that! Number two; in NCI/NIH's Annual Plan and Budget Proposal for Fiscal Year 2012 report: Cancer – Changing the Conversation to the US President and Congress to justify why NCI NIH would support a private company for anti-cancer drug development, they only mentioned two companies. One is in California and one is us. They told the U.S. President and Congress that funding these kinds of companies is well justified because products and

technologies developed by companies technologies for drugs and secure the development in the world. We are very  
like Altor would create the innovative US's leading position on drug proud of that also.

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