PROFILE

Immune Design

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How and when did your company start, and where are you located?

Immune Design was founded in 2008 as an immunotherapy company with 2 distinct, but complementary, drug discovery platforms. The platforms are designed with the potential as therapies to treat not only cancer, but also infectious and allergic diseases. The company has offices in South San Francisco and Seattle, as well as labs in Seattle.

How many employees do you have, and how do you find and attract them?

As of June 30, 2016, Immune Design had approximately 50 employees. We seek talented and motivated individuals to join our team, who are excited by cutting-edge innovation and want to bring meaningful benefits to patients’ lives via the development of novel therapies.

What are the main focus and platform technology(ies) of your company?

We are an immunotherapy company focused in oncology. Our main platforms are a dendritic cell-targeting, integration-deficient lentiviral vector used to prime systemic T-cell responses (ZVex®), and the synthetic TLR4 agonist platform Glucopyranosyl Lipid A Adjuvant System (GLAAS™) to stimulate innate and adaptive immune responses. All our cancer immunotherapy approaches are applied in vivo, stimulating T cells through systemic vaccination or modulation of the tumor microenvironment. In addition, through partnerships with leading pharma partners, our GLAAS technology is being applied in the field of infectious diseases as a vaccine adjuvant, and in the field of allergy as an immunomodulator.

Can you provide a short overview of your product pipeline?

Immune Design has 2 lead product candidates in randomized Phase 2 trials, CMB305 and G100. CMB305 is targeting NY-ESO-1 expressing tumors, primarily sarcomas, based on a prime-boost regimen with a ZVex vector and recombinant NY-ESO-1 adjuvanted with Glucopyranosyl Lipid A (GLA). G100, in contrast, is an antigen-agnostic therapy based on intratumoral injection. G100 is potentially applicable to any injectable tumor and acts in synergy with low-dose irradiation. Immune Design has also recently entered a strategic collaboration to develop ZVex-based cancer vaccines targeting neoantigens (ZvexNeo). Immune Design is also working actively on a next generation ZVex vector that would be able to express multiple tumor antigens and immune enhancing factors, allowing for potential broad applicability across multiple major tumor types (ZVex2.0).

In the field of infectious diseases, Immune Design is developing a vaccine for genital herpes simplex type 2 infection together with Sanofi Pasteur. In addition, we have licensed GLA to MedImmune/Astra Zeneca as an adjuvant for a respiratory syncytial virus (RSV) vaccine. In the field of allergic diseases, Immune Design has licensed GLA to Sanofi for development of a peanut desensitization therapy.

Who is your competition, and what advantage(s) do your products / technology offer?

From a focused perspective, we compete with companies developing in vivo immunotherapies for cancer and believe that our technologies offer several advantages, such as (i) a novel ZVex vector designed to target dendritic cells specifically, which are the key cells to induce tumor-killing CTLs, (ii) the ability to be off-the-shelf, but with the versatility to be personalized e.g. to target neo-antigens (iii) inducing both adaptive and innate immune response (iv) being applicable to infectious diseases and allergy, in addition to cancer, which gives Immune Design a very broad reach into the field of immunotherapies. More broadly, we could be viewed as competitive with ex vivo cell-based cancer therapies and other immunotherapies, but our approaches are distinct.

What were the “highlights” in your recent product development?

We released positive safety, immunogenicity and preliminary efficacy data at ASCO 2016 on Phase 1 trials of LV305 (the “prime” part of the CMB305 prime boost), CMB305 and G100. Patients treated with LV305 and CMB305 were predominantly suffering from soft-tissue sarcoma, whereas patients treated with G100 had Merkel cell carcinoma or sarcoma. In addition, we announced the start of two randomized phase 2 trials, one testing CMB305 with or without
Tecentriq™ (Atezolizumab), Genentech’s anti-PDL1 immune checkpoint inhibitor, in patients with soft tissue sarcoma, the other one testing G100 together with irradiation and plus or minus Keytruda® (Pembrolizumab), Merck’s anti-PD1 checkpoint inhibitor, in low grade follicular non-Hodgkin’s lymphoma patients.

What have been the most critical problems in developing products in your field, and how can your company’s technology help overcome these problems?

The ultimate goal of cancer immunotherapy is the elimination of tumor cells through a coordinated engagement of innate and adaptive immune responses. This requires both modulation of the immune suppressive tumor microenvironment as well as systemic induction and expansion of tumor-specific cytotoxic T cells. To this end, CMB305 and G100 offer novel and complementary approaches, which can potentially synergize with multiple other immunoncology therapies such as immune checkpoint inhibitors and adaptive cell therapies.

What is your company’s value proposition?

Immune Design’s approaches to treating cancer are specifically designed to address shortcomings of earlier approaches, as well as provide flexibility to combine with other agents, thereby potentially occupying an important place in the Immunoncology treatment landscape. In addition, although the company is focused in oncology, our discovery platforms have potential utility in infectious and allergic diseases, and recognized by the pharmaceutical companies with whom we have several collaborations in place.

What business development strategy do you pursue?

We have an active out licensing program in place that has generated multiple pharmaceutical partnerships in infectious and allergic diseases. In oncology, we have 3 clinical collaborations in place to combine our agents with those of our partners.

How does your company attract partners?

Immune Design has cutting-edge science that has been productive and practical, producing multiple product candidates in 3 therapeutic areas, ranging from preclinical to randomized Phase 2 development.

Who are your most important partners?

We view all of our partners as important, and have an active Alliance Management function.

How do you balance performing work in-house vs out-sourcing?

Immune Design has built in-house capabilities to perform cutting-edge research in immuno-oncology, focusing on vector biology and murine tumor models. Most research projects are translational in nature, directly supporting product development. We are collaborating with academic institutions on some more basic research questions and outsource routine work, especially various assays.

What are your product development goals for the next 3 years?

We plan to continue the development of CMB305 and G100 and seek appropriate paths to registration. In addition, we intend to continue to advance the next generation of potential therapies, ZVexNeo (neoantigen program) and ZVex2.0 (next generation vector with increased breadth of protection).

For more information, please visit: http://immunedesign.com/