Immune Design Corp.
Form 424B5
October 25, 2017
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Filed Pursuant to Rule 424(b)(5)
Registration No. 333-206324

PROSPECTUS SUPPLEMENT

(to Prospectus dated December 29, 2015)

19,500,000 Shares

Common Stock

We are offering 19,500,000 shares of our common stock.

Our common stock is listed on The NASDAQ Global Market under the symbol IMDZ. On October 24, 2017, the last reported sale price of our common stock on The NASDAQ Global Market was $4.35 per share.

Investing in our common stock involves a high degree of risk. Please see Risk Factors beginning on page S-15 of this prospectus supplement, on page 3 of the accompanying prospectus and in the documents incorporated by reference into this prospectus supplement.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement or accompanying prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

	PER SHARE	TOTAL
Public offering price	$ 4.10	$ 79,950,000
Underwriting discounts and commissions(1)	$ 0.246	$ 4,797,000
Proceeds to us, before expenses	$ 3.854	$ 75,153,000

(1) See Underwriting for a description of compensation payable to the underwriters.
Certain members of our board of directors and certain other existing stockholders that are affiliated with members of our board of directors have indicated an interest in purchasing an aggregate of up to approximately 2,700,000 shares of our common stock in this offering on the same terms as those offered to the public. However, indications of interest are not binding agreements or commitments to purchase and any of these stockholders may determine to purchase

more, fewer or no shares in this offering. In addition, the underwriters could determine to sell fewer shares to any of these stockholders than the stockholders indicate an interest in purchasing or could determine not to sell any shares to the stockholders.

Delivery of the shares of common stock in this offering is expected to be made on or about October 27, 2017. We have granted the underwriters an option for a period of 30 days to purchase up to 2,925,000 additional shares of our common stock.

Joint Book-Running Managers

Leerink Partners **Cowen** **RBC Capital Markets**

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Prospectus Supplement

Prospectus

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ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus are part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission, or SEC, utilizing a shelf registration process. The prospectus supplement describes the specific terms of this offering and also adds to and updates the information contained in the accompanying prospectus and the documents incorporated by reference into this prospectus supplement and the accompanying prospectus. The accompanying prospectus gives more general information, some of which may not apply to this offering. If there is a difference between the information contained in this prospectus supplement and the information contained in the accompanying prospectus or any document incorporated by reference, you should rely on the information in this prospectus supplement. Generally, when we refer to the prospectus, we are referring to this prospectus supplement and the accompanying prospectus combined.

You should rely only on the information contained in or incorporated by reference in this prospectus supplement, the accompanying prospectus, and any free writing prospectus we have authorized for use in connection with this offering. We have not, and the underwriters have not, authorized anyone else to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We take, and the underwriters take, no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. The information contained in or incorporated by reference in this prospectus supplement, the accompanying prospectus, and any authorized free writing prospectus is accurate only as of the date of those respective documents, regardless of the time of delivery of this prospectus supplement and the accompanying prospectus or of any sale of shares of our common stock. Our business, financial condition, results of operations and prospects may have changed since those dates. It is important for you to read and consider all information contained or incorporated by reference in this prospectus supplement and the accompanying prospectus in making your investment decision. You should read this prospectus supplement and the accompanying prospectus, as well as the documents incorporated by reference into this prospectus supplement and the accompanying prospectus, and any authorized free writing prospectus. You should also read and consider the information in the documents we have referred you to in the sections of this prospectus supplement titled Where You Can Find More Information and Incorporation of Certain Information by Reference.

We are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The distribution of this prospectus supplement and the accompanying prospectus and the offering of our common stock in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus supplement and the accompanying prospectus must inform themselves about, and observe any restrictions relating to, the offering of our common stock and the distribution of this prospectus supplement and the accompanying prospectus outside the United States. This prospectus supplement and the accompanying prospectus do not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement and the accompanying prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

Except as otherwise indicated herein or as the context otherwise requires, references in this prospectus to Immune Design, the Company, we, us, our and similar references refer to Immune Design Corp. ZVex and GLAAS registered trademarks. The Immune Design logo is our unregistered trademark. This prospectus supplement and the accompanying prospectus, including the information incorporated by reference into this prospectus supplement and the accompanying prospectus, and any free writing prospectuses we have authorized for use in connection with this offering, contains registered marks, trademarks and trade names of other companies, which are the property of their respective owners.

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PROSPECTUS SUPPLEMENT SUMMARY

The following summary highlights selected information about us, this offering, and selected information contained elsewhere in or incorporated by reference into this prospectus supplement and the accompanying prospectus. Because this is only a summary, you should read the rest of this prospectus supplement, the accompanying prospectus, and our financial statements and related notes and the other information we incorporate by reference, and the information included in any free writing prospectus prepared by or on behalf of us or to which we have referred you, before you invest in our common stock. If you invest in our common stock, you are assuming a high degree of risk. See Risk Factors beginning on page S-15 of this prospectus supplement, on page 3 of the accompanying prospectus and in the documents incorporated by reference into this prospectus supplement and the accompanying prospectus.

Our Company

Overview

We are a clinical-stage immunotherapy company with next-generation, diversified *in vivo* approaches designed to enable the body s immune system to fight disease. Although we believe our approaches have broad potential across multiple therapeutic areas, we are focused in oncology and have designed our technologies to activate the immune system s natural ability to generate and/or expand antigen-specific cytotoxic T cells, while also enhancing other immune effectors, to fight cancer via distinct mechanisms. Our two lead product candidates, CMB305 and G100, utilize different immuno-oncology approaches that, we believe, address the shortcomings of existing therapies and have the potential to treat a broad patient population either as individual therapies or in combination with other mechanisms of action. We have also been executing a strategy to partner individual indications outside of oncology in infectious and allergic diseases, which provide potential downstream revenue while preserving growth opportunity in the future.

Our net loss was $13.8 million and $26.5 million for the three and six months ended June 30, 2017, respectively, compared to $14.3 million and $26.6 million for the three and six months ended June 30, 2016, respectively. As of June 30, 2017, we had an accumulated deficit of $210.4 million. We have incurred net losses to date and expect to continue to incur significant expenses and increasing operating losses for at least the next several years.

The following is our primary oncology product development pipeline produced by our two discovery platforms, ZVex® and GLAAS®:

Antigen Specific: Next-Generation Cancer Vaccines

CMB305: NY-ESO-1-targeting Prime Boost

CMB305 is a prime-boost cancer vaccine approach targeting the NY-ESO-1 tumor antigen, in which a priming agent called LV305 from our ZVex platform is dosed sequentially with a boosting agent from our GLAAS platform. CMB305 is designed to induce and expand a specific, integrated anti-tumor immune response and is currently being evaluated in Phase 1 clinical trials in patients with soft tissue sarcoma as a monotherapy, as well as in a randomized Phase 2 clinical trial in patients with soft tissue sarcoma in combination with the anti-PD-L1 cancer immunotherapy, atezolizumab (Tecentriq®), pursuant to a collaboration with Genentech.

In June 2017, at the American Society of Clinical Oncology, or ASCO, 2017 Annual Meeting, we presented data on 25 patients with recurrent soft tissue sarcoma treated with CMB305 monotherapy.

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The presentation showed that in a population where 92% of the patients had metastatic disease and 56% were progressing upon trial entry, the median overall survival, or OS, had not yet been reached and the OS rate was 83% and 76% at 12 and 18 months, respectively. These new data compare favorably to the median OS for approved second line and later chemotherapeutic agents, which is 12.4-13.5 months, as well as a published median OS of 11.7 months for synovial sarcoma patients specifically, which was the largest patient population enrolled in this trial. A disease control rate, or DCR, of 64% was observed, including tumor growth arrest in patients who had evidence of disease progression at study entry. CMB305 was well tolerated, with only one related Grade 3 adverse event and without dose-limiting toxicities. With respect to immunogenicity, CMB305 generated a strong and broad anti-NY-ESO-1 immune response in over 50% of the patients, with 32% of patients experiencing an integrated response (demonstrated by production of T cells and antibodies). Induction of an immune response against other tumor antigens not targeted by CMB305 known as antigen spreading was detected in 33% of evaluable patients following CMB305 therapy. Patients who responded immunologically had a greater degree of antigen-specific T cell response than previously reported in the Phase 1 trial of LV305 alone, which is consistent with the rationale of the prime-boost approach. In a separate presentation examining data from a pool of 64 patients of various tumor types treated with CMB305 or LV305 monotherapy, we reported a trend towards the association of the intended anti-NY-ESO-1 immune response by these agents with improved patient survival, particularly in patients with pre-existing anti-NY-ESO-1 immunity. These immune biomarkers, including what we believe are novel biomarkers derived from public T cell receptors, may guide regulatory strategy via the selection of patients more likely to have survival benefit on CMB305 therapy.

In September 2017, at the European Society of Medical Oncology, or ESMO, 2017 Congress, we presented an interim analysis of our ongoing, randomized Phase 2 combination study of CMB305. This fully enrolled trial is evaluating the safety, immunogenicity and efficacy of CMB305 in combination with atezolizumab, or atezolizumab alone, in a total of 88 patients with locally advanced, relapsed, or metastatic NY-ESO-1+ synovial sarcoma or myxoid/round-cell liposarcoma. Data presented at ESMO evaluated a pre-specified interim analysis of 36 patients in a data cut with median duration of observation of less than six months. The interim analysis data showed that NY-ESO-1+ soft tissue sarcoma patients receiving CMB305 in combination with atezolizumab experienced a greater clinical benefit and immune response than those receiving atezolizumab alone, including a DCR of 61% versus 28%, median progression free survival, or PFS of 2.6 months versus 1.4 months, and time to next treatment, or TTNT, of 9 months versus 6.3 months, respectively. The trend of greater clinical benefit remained consistent for the full study population, including a DCR of 57% for the CMB305 + atezolizumab group versus 38% for the atezolizumab alone group. We also observed three partial responses in the CMB305 + atezolizumab group versus zero responses in the atezolizumab alone group. Patients in the full study population who received CMB305 plus atezolizumab also demonstrated stronger induced anti-NY-ESO-1 immune responses (demonstrated by production of T cells or antibodies) compared to those receiving atezolizumab alone (n=60/88). An exploratory biomarker analysis showed a continued link between induced immune response and improved overall survival. CMB305 + atezolizumab was observed to be well tolerated, and there were no new safety signals in either arm of the trial. We believe the potential benefit for CMB305 + atezolizumab treatment will be improved survival coupled with a favorable safety profile, based on our experience with CMB305 monotherapy to date. As of the data collection date, overall survival data were immature due to a median duration of observation of less than six months. We intend to present survival data from this Phase 2 combination study beginning in 2018 once all patients approach at least one year of follow up and the data mature.

In addition to the Phase 3 trial, we are considering starting a multi-tumor CMB305 basket trial in the second half of 2018 in patients with several NY-ESO-1+ tumors, such as bladder and gastric cancers. We will likely combine CMB305 with a second therapy, such as an anti-PD-1/PD-L1 checkpoint inhibitor.

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We have received orphan drug designation in the United States for CMB305, and in the US and EU for each component of CMB305, in each case, for soft tissue sarcoma. In October 2017, we announced receipt of positive feedback from the U.S. Food and Drug Administration, or FDA, on a Phase 3 trial design for CMB305 in synovial sarcoma patients in a maintenance setting. The trial is designed to enroll 248 patients with NY-ESO-1+ synovial sarcoma who will either receive CMB305 monotherapy or placebo. The patients will be randomized 1:1, with co-primary endpoints of PFS and OS. The PFS analysis may occur with a projected number of 141 events, as early as 24 months from the first patient dosed. Alternatively, OS analysis may occur with a projected number of 181 events, as early as 48 months from the first patient dosed. If the PFS endpoint is met, we intend to file a Biologics License Application, or BLA, and seek approval for CMB305 to treat this patient population. We may also develop a companion diagnostic in connection with our CMB305 development program to identify NY-ESO-1 expressing tumors, which test we believe would require FDA approval. We expect to initiate this Phase 3 clinical trial in mid-2018.

CA21: Next-Generation Multi-Targeting Prime Boost

We are currently developing a next-generation prime-boost called CA21. Similar to CMB305, CA21 is designed to consist of two separate agents operating as a prime and boost, LA51 and RA41, respectively. We expect CA21 to induce a stronger immune response than CMB305 by targeting multiple tumor antigens and including an immuno-stimulatory component. We have presented preclinical data at the Society for Immunotherapy of Cancer, or SITC, Annual Meeting 2016 showing the ability of our ZVex vectors to target multiple antigens co-delivered selectively to dendritic cells *in vivo* without antigen competition. Immune responses were as high as, or higher, than those obtained by combining individually manufactured vectors, demonstrating the versatility and potency of this multi-antigen ZVex approach. At the SITC 2017 Annual Meeting, we intend to present data showing similar results, but for a larger number of target antigens. We are planning to file INDs in 2018 for Phase 1 dose escalation studies of each of LA51 and, and resources permitting, RA41, followed by the Phase 1 dose escalation study of CA21 to be completed by year end.

Antigen Agnostic: Intratumoral Immune Activation

G100 was developed from the GLAAS platform and, in contrast to CMB305, does not target a specific antigen, but instead activates both innate and adaptive immunity in the tumor microenvironment, including dendritic cells, to create an immune response against the tumor s pre-existing diverse set of antigens, including neoantigens. G100 contains a potent synthetic small molecule toll-like receptor-4 (TLR-4) agonist, Glucopyranosyl Lipid A, or GLA, and is the lead product candidate in our Antigen Agnostic approach. We are developing G100 as a monotherapy and combination therapy in patients with follicular non-Hodgkin Lymphoma, or fNHL, in a randomized Phase 1b/2 trial. The monotherapy Phase 1b portion of the trial is evaluating G100 with local radiation at multiple doses, and a randomized Phase 2 portion of the trial is evaluating G100 at a set dose with local radiation alone or in combination with the anti-PD-1 agent, Keytruda® (pembrolizumab), pursuant to a collaboration with Merck.

We have fully enrolled the randomized Phase 2 combination portion of the study, and if afforded the opportunity, plan to present data at the American Society of Hematology, or ASH, Annual Meeting in December 2017 on all of the patients. We plan to review the objective response rate achieved by these patients, as well as safety and a continued analysis of the tumor microenvironment, and evaluate the opportunity with potential next steps in the first half of 2018.

We have received orphan drug designation in the United States and EU for G100 in fNHL. If the ongoing trials produce a sufficiently robust clinical benefit for patients, we may discuss an appropriate development path with the regulatory authorities to pursue fNHL as the first indication for which we would seek approval for G100.

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Our Strategy

Develop product candidates to treat a broad patient population. We believe our product candidates may benefit a wide range of patients in both orphan diseases and larger indications because they are designed to create tumor-killing CTLs, could potentially target any tumor and have potential utility as both individual and multiple combination therapies.

Rapidly advance first-in-class immuno-oncology product candidates through clinical development. We intend to continue to execute a focused clinical development plan that takes selected product candidates through approval. We are initially focused on indications with a significant unmet need in targeted patient populations, such as CMB305 in soft tissue sarcoma.

Leverage our platforms ability to address multiple tumor types to build a robust product pipeline. Our ZVex and GLAAS platforms allow us to select both conserved tumor antigens and neoantigens and create separate product candidates for potentially any tumor type. We believe this ability, and the potential of our vectors to simultaneously express antigens and immuno-regulatory molecules, will be a driver of our future growth beyond the current product candidates.

Position Immune Design to potentially play a broad role in the immuno-oncology treatment paradigm. Our agents are designed to work either individually or together, as well as with multiple other mechanisms of action. In addition to our ongoing clinical collaborations combining CMB305 and G100 with checkpoint inhibitors, we intent to explore additional combinations with other immuno-oncology approaches to demonstrate this broad potential benefit.

Selectively monetize non-oncology indications, while retaining optionality for future internal development. Both ZVex and GLAAS also have potential application in infectious disease and allergy. We have licensed the right to use the GLAAS platform in specific infectious and allergic disease indications to large pharmaceutical companies. These collaborations provide us with both near- and long-term potential revenue and external validation of our technology, while preserving optionality for future growth beyond oncology.

Establish infrastructure and capabilities to support the future commercialization of our products. Our management team has extensive experience commercializing pharmaceutical products and as our product candidates advance, we intend to add the appropriate additional regulatory and commercial expertise to maximize the potential for successful product launches and franchise management. In certain instances, we will seek partners to maximize the commercial potential of our product candidates.

ZVex and GLAAS: Complementary and Productive Product Discovery Platforms

We believe our approach to fighting cancer is the first of its kind. We utilize ZVex and GLAAS to develop product candidates that work *in vivo* and are designed to create and expand diverse armies of immune cells known as cytotoxic T lymphocytes, or CTLs, to fight tumors. An *in vivo* approach is preferred because it addresses both the cumbersome

administration and the need for patient customization inherent in *ex vivo* approaches, such as engineered CD8 T cells. Although they have distinct mechanisms of action, we designed both CMB305 and G100 to convert cold tumors, or those without CTLs, to hot tumors, or those with CTLs specific for the antigens expressed by the tumor. Although they are designed to share this effect on tumors, the agents distinct mechanisms of action may produce different clinical benefit profiles. For example, it has been noted in scientific literature that although a cancer vaccine therapy may not result in an immediate or early change in tumor burden like

cytotoxic approaches such as chemotherapy, a vaccine may induce a delayed anti-tumor response resulting in longer survival than that seen with the cytotoxic approach. Similarly, and based on our clinical studies to date, we believe that although we may not observe a short-term surrogate endpoint like ORR or PFS in late-stage patients receiving monotherapy, ZVex-based cancer vaccines such as CMB305 may nonetheless confer a potentially meaningful overall survival benefit in these patients, as well as in earlier-stage patients where the vaccine has sufficient time to work. Accordingly, with support on trial design from the FDA, we are planning to administer CMB305 in our first Phase 3 trial in synovial sarcoma patients who are stable after frontline treatment.

The fundamental discoveries underlying ZVex originated with one of our founders, Nobel laureate David Baltimore, Ph.D. Dr. Baltimore and his colleagues theorized that a lentivirus, which is a virus that works in immune cells such as dendritic cells, or DCs, could be engineered to selectively deliver the specific genetic information of a tumor marker, called an antigen, directly to DCs in the skin. The expression of this antigen would trigger an immune response of CTLs to eliminate the tumor. In comparison, the core of the GLAAS platform is a highly potent synthetic stimulator of a specific cellular receptor called TLR4 that is present in DCs. Activation of DCs through TLR4 can safely trigger an anti-tumor immune response and synergize with either pre-existing CTLs or those generated by ZVex for what we believe will be a greater degree of tumor killing than either approach alone. We believe ZVex- and GLAAS-based product candidates have broad combination potential across the oncology landscape, such as in combination with checkpoint inhibitors in our two ongoing randomized studies and with other approaches, such as engineered T cells.

ZVex is a discovery platform that uses a first-in-class vector to generate product candidates designed to create CTLs *in vivo*. CTLs are essential because their primary function is the selective recognition and destruction of tumor cells. The ZVex vector is a delivery system based on a hybrid, re-engineered virus designed to carry the genetic information of selected tumor antigen(s) (in whole or selected epitopes) safely and selectively to dendritic cells, or DCs, in the skin. We believe that DCs are the most important immune cells to target because they initiate the specific immune response that generates CTLs to kill the tumor. When injected into a cancer patient, a ZVex-based product candidate is designed to interact only with these DCs, delivering the tumor antigen(s) in the form of RNA. The DC then processes the RNA into a protein, splits it and presents the protein fragments outside of the cell to neighboring resting CD8 T cells, which then activate to become fully functional CD8+ CTLs. When a CD8 T cell is activated and starts dividing, the result is millions of CTLs that will kill tumor cells bearing that same specific tumor antigen epitopes. ZVex product candidates have the potential to carry the genetic material of different tumor antigens, including neoantigens, as well as immuno-modulatory agents, and therefore have the potential to target multiple types of cancers.

GLAAS, which stands for GLA Adjuvant Systems, is a discovery platform that also works *in vivo* and is based on a small synthetic molecule called GLA, which stands for glucopyranosyl lipid A. GLA selectively binds to the TLR4 receptor and causes potent activation of the DC. When GLA is accompanied by a tumor antigen and injected into a patient, the combination is taken up by DCs and leads to the production and expansion of immune cells called CD4 T helper lymphocytes, or CD4 T cells. Similar to CTLs, these CD4 T cells will be specific to a tumor antigen, but unlike CTLs, they generally cannot kill antigen-bearing tumor cells. They do, however, play a key role in boosting the anti-tumor immune response by: (1) expanding the number and function of existing CTLs that are specific to the same tumor antigen; and (2) providing help to other immune cells, including B lymphocytes that produce antibodies and natural killer, or NK, cells that are also important in the overall anti-tumor immune response. We therefore believe that product candidates leveraging GLAAS with one or more tumor antigens will be effective in amplifying the anti-tumor activity of CTLs, as well

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as other beneficial anti-tumor mechanisms. In addition, we can leverage GLAAS to use a specific formulation of GLA alone, without an antigen, for direct tumor microenvironment immune activation. Like ZVex, GLAAS product candidates have the potential to target multiple types of cancers.

The combination of ZVex and GLAAS is expected to synergize to yield a more potent immune response called a heterologous prime-boost. The ZVex vector primes the immune system by triggering the generation of CTLs, while the GLA-activated CD4 T cells boost the immune response by expanding and enhancing the function of CTLs and other anti-tumor immune mechanisms. We believe a more potent immune response should translate to clinical benefit for patients.

The following data from an *in vivo* rodent model illustrate the effect on antigen-specific CTL generation when combining the ZVex and GLAAS platforms in a prime-boost. When used alone, the ZVex agent increased the CTLs from 0.05% to 3.16%, and when used in combination with GLAAS, the percentage of antigen-specific CTLs in the rodents increased to 15.7%.

We are also studying a different combination of both platforms in a prime-pull strategy where a ZVex vector primes the immune system and G100 pulls CTLs to the tumor via intratumoral injection. Further combination potential also exists with other immuno-oncology modalities, such as the use of G100 to pull engineered T cells to a tumor. We believe that these combinations of different technologies have the potential to be best-in-class approaches that generate and expand CTLs and recruit them to the tumor.

Our Approaches to Treating Cancer

Immuno-oncology broadly refers to the modulation of the immune system to eradicate tumor cells, and is often colloquially divided into two categories: create and expand the anti-tumor immune response and remove the brakes placed on the immune response by the tumor s defenses.

We believe alteration of the tumor microenvironment and trafficking of CTLs into the tumor are being increasingly recognized as important for the efficacy of any immunotherapy. Our platforms focus on the create and expand category and are designed to generate strong, tumor-specific CTLs and effector cells *in vivo* while addressing many of the shortcomings of previous approaches. Our platforms can generate individual product candidates, such as G100, or product candidates administered in sequence, such as CMB305. Additionally, we designed our therapies to be combined with other immuno-oncology therapeutic mechanisms such as checkpoint inhibitors from the remove the brakes category, which we believe will generate a greater anti-tumor response.

Our immuno-oncology product candidates are being developed in two separate strategies that we designate as the Antigen Specific and Antigen Agnostic approaches.

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Antigen Specific

Our Antigen Specific approach is based on the observation that human tumor cells make a variety of antigens that are not found in normal tissues, but are present in the patient s tumor, so there is an opportunity to educate the immune system to recognize the tumor antigen and kill tumor cells expressing it. ZVex products carry RNA of a chosen antigen or selected epitopes of multiple antigens, including neoantigens, whereas GLAAS products are accompanied by a full-length protein of the same antigen or, potentially, a peptide representing the selected epitopes. We have generated a significant amount of preclinical data illustrating the desirable qualities of this approach. The following graph illustrates the ability of ZVex in an *in vivo* rodent tumor model to generate an immune response against a protein the body recognizes as self, and therefore against which it would not normally mount an immune response. This experiment demonstrates the ability of ZVex to overcome immune tolerance, which is an important element of any potential cancer immunotherapy treatment.

For our first Antigen Specific product candidates, we have chosen a tumor-associated antigen named NY-ESO-1 that is expressed in a large number of solid and liquid tumors in varying degrees. We conducted an extensive search to choose NY-ESO-1, and we believe it is an attractive target for cancer immunotherapy due to its frequent expression in tumors, limited expression in normal tissue and its immunogenic potential. Among the antigens selected by the National Cancer Institute as the best targets for immunotherapy, only NY-ESO-1 and one other antigen have been shown to be tumor-specific. Our first two clinical programs targeting NY-ESO-1 from ZVex and GLAAS were LV305 and G305, respectively. LV305 delivers the RNA for NY-ESO-1, while G305 consists of a specific formulation of GLA and the full-length NY-ESO-1 protein. We administer LV305 and G305 in sequence to become CMB305, the heterologous prime-boost therapy. Although we have seen initial clinical benefit from LV305 as a single agent in patients with soft tissue sarcoma, because we believe CMB305 should be more effective than LV305 alone, we intend to focus our development efforts on CMB305.

Antigen Agnostic

Unlike the Antigen Specific approach, the Antigen Agnostic approach does not require a selected tumor antigen present in the cancer. It instead relies on endogenous or neoantigens released during tumor lysis by treatments such as chemotherapy or local radiation. G100, our lead product under this approach, is injected directly into the tumor, and neighboring GLA-activated DCs then capture the diverse set of released antigens and generate a broad and varied immune response. Because local radiation is an effective way to cause tumor cell lysis in accessible tumors, we plan initially to evaluate tumors that are accessible to both local radiation and intratumoral administration.

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In collaboration with Dr. Ronald Levy s lab at Stanford University, we examined the administration of intratumorally-injected G100 in the A20 murine model that is used to represent lymphoma. In an oral presentation at the 2015 American Society of Hematology, or ASH, annual meeting, Dr. Levy s lab presented data showing tumor growth inhibition in both injected tumors as well as uninjected tumors, known as an abscopal effect. In addition, G100 had an impact on the tumor microenvironment, changing it from a non-inflammatory state, or cold, to an inflamed state, or hot. Specifically, in the image below, responding animals remained tumor-free at least three months post G100 treatment and, without administration of additional G100, were resistant to secondary challenge with the same tumor type.

In addition to G100, we are also investigating the potential use of our ZVex platform for intratumoral injection. For example, we presented preclinical data at the American Association for Cancer Research Annual Meeting in 2016 describing the intratumoral administration of a ZVex vector designed to generate localized expression of IL-12, a potent modulator of innate and adaptive immune responses. The results demonstrated strong local and systemic anti-tumor efficacy in multiple murine models, and offers a potential expansion opportunity of our Antigen Agnostic approach beyond G100.

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Our Product Candidates in Development

Our clinical-stage oncology product candidates are depicted in the following diagram:

CMB305

We believe that prime-boost therapies are an optimal way to trigger a robust immune response. This is particularly true when distinct, but complementary, parts of the immune response are stimulated. Based on the predicted mechanisms of action in the prime-boost, our relevant preclinical studies and CMB305 clinical data to date, we expect CMB305 to induce a stronger anti-tumor CTL response than either of its components alone. In addition to increasing the magnitude of the CTL response, we expect this approach to generate memory CTLs with long-term immune surveillance, as well as enhance other immune system anti-tumor mechanisms. Memory CTLs function as surveillance cells, ready to target persisting or new cancer cells with the same antigen signature, which may provide a longer-term benefit to patients.

We are initially focusing development of CMB305 in a type of soft tissue sarcoma called synovial sarcoma. Synovial sarcoma is a rare form of cancer in the joints. Certain studies of outcomes relating to synovial sarcoma have shown a five-year and ten-year survival for people with grade 3 tumors or metastatic disease of less than 25% and 15%, respectively. The low incidence rate of soft tissue sarcoma, including synovial sarcoma, qualifies it as an orphan disease, and we have received orphan drug designation for soft tissue sarcoma for CMB305 in the US and for both components of CMB305 in the US and EU. Orphan drug designation provides certain benefits, such as research tax credits and waivers of certain regulatory fees but does not provide any assurance of regulatory approval or expedite any regulatory review. We believe that there is an opportunity to improve upon both the safety and clinical benefit profiles of approved chemotherapy agents in soft tissue sarcoma, which to date have demonstrated poor toxicity and produced limited impact on patient survival. In October 2017, we announced receipt of positive feedback from the FDA on a Phase 3 trial design for CMB305 in synovial sarcoma patients in a maintenance setting. The trial is designed to enroll 248 patients with NY-ESO-1+ synovial sarcoma who will either receive CMB305 monotherapy or placebo. The patients will be randomized 1:1, with co-primary endpoints of PFS and OS. PFS analysis may occur with a projected number of 141 events, as early as 24 months from the first patient dosed. Alternatively, OS analysis may occur with a projected number of 181 events, as early as 48 months from the first patient dosed. If the PFS endpoint is met, we intend to file a BLA and seek approval for CMB305 to treat this patient population. We may also develop a companion diagnostic in connection with our CMB305 development program to identify NY-ESO-1 expressing tumors, which test we believe would require FDA approval.

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G100

We are evaluating our lead Antigen Agnostic approach product candidate, G100, in a randomized Phase 1/2 study to treat patients with a follicular NHL, or fNHL, who received G100 with local radiation, with or without KEYTRUDA, pursuant to a collaboration with Merck. These patients must be either treatment naïve or relapsed or refractory following at least one prior treatment. We inject a single tumor after the administration of local radiation and then evaluate the local immune environment and the potential clinical effect on distant tumors. We have fully enrolled the randomized Phase 2 combination study of G100, and if afforded the opportunity, plan to present data at the American Society of Hematology (ASH) Annual Meeting in December 2017 on all of the patients.

Therapeutic Applications Outside Oncology

Although immuno-oncology development is robust with therapies for an estimated 10 liquid and 18 solid tumors in development and with a market for immuno-oncology therapies projected to approach $35 billion by 2023, the broader market for immunotherapy applications also includes infectious and allergic diseases. The worldwide infectious diseases vaccine market garnered approximately $30 billion in sales in 2014 and the market for allergy therapies and diagnostics is projected to reach $41 billion by 2022. Beyond oncology, we believe our technologies offer several promising applications in the fields of infectious and allergic diseases.

Infectious Diseases

Historically, antigens have been used with sub-optimal immune adjuvants and have mainly focused on generating antibodies, which have been limited by low affinity and a narrow spectrum of activity. We believe using glucopyranosyl lipid adjuvant, or GLA, a novel molecular adjuvant, combined with infectious diseases antigens will boost pre-existing T cells and trigger a broad antibody response, allowing for diverse antigen recognition. To date, GLA has been studied in human clinical trials involving over 1,400 subjects. The results of these trials we have reviewed to date support the finding of increased magnitude and breadth of the antibody response.

We have a preclinical vaccine product candidate called G103 to treat herpes simplex virus type 2, or HSV2. G103 consists of several recombinantly expressed proteins adjuvanted with a specific formulation of GLA. In October 2014, we announced a collaboration with Sanofi Pasteur, the vaccines division of Sanofi, to develop G103 along with additional assets contributed by us and Sanofi Pasteur.

Allergic Diseases

We believe allergy represents an exciting area for the application of GLAAS. Allergies to pollen or food often occur because of aberrant immune reactions, which are characterized by helper T cells producing signals that induce other immune cells to cause the allergy symptoms. We have a large set of preclinical data demonstrating that certain formulations of GLAAS, when given prophylactically or therapeutically with or without the allergen, can shift the responses in a way that results in significant protection from allergy symptoms. In essence, the immune system can be taught to redirect the T cells to respond in better ways. In August 2014, we announced a licensing agreement with Sanofi pursuant to which we granted Sanofi the right to use the GLAAS platform to develop therapeutics to treat peanut allergy.

Our Corporate Information

We were incorporated in February 2008 in the State of Delaware. Our operations are headquartered in Seattle, Washington and we have an additional facility in South San Francisco, California. Our principal

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executive offices are located at 1616 Eastlake Ave. E., Suite 310, Seattle, WA 98102, and our telephone number is (206) 682-0645. Our website address is *www.immunedesign.com*. Our website and the information contained on, or that can be accessed through, the website will not be deemed to be incorporated by reference in, and are not considered part of, this prospectus supplement or accompanying prospectus. You should not rely on any such information in making your decision whether to purchase our common stock.

Implications of Being an Emerging Growth Company

We are an emerging growth company as defined in the Jumpstart our Business Startups Act of 2012, or the JOBS Act. An emerging growth company may take advantage of specified reduced reporting and other burdens that are otherwise applicable generally to public companies. These provisions include:

- an exemption from the auditor attestation requirement in the assessment of our internal controls over financial reporting;
- an exemption from compliance with any requirement that the Public Company Accounting Oversight Board may adopt regarding mandatory audit firm rotation or a supplement to the auditor s report providing additional information about the audit and the financial statements;
- reduced disclosure about the company s executive compensation arrangements; and
- exemptions from the requirements to obtain a non-binding advisory vote on executive compensation or a stockholder approval of any golden parachute arrangements.

We will remain an emerging growth company until the earliest of: (1) the last day of the fiscal year in which we have total annual gross revenues of $1.07 billion or more; (2) December 31, 2019, which is the last day of our fiscal year following the fifth anniversary of the date of the completion of our initial public offering in July 2014; (3) the date on which we have issued more than $1.0 billion in nonconvertible debt during the previous three years; or (4) as of the end of any fiscal year in which the market value of our common stock held by non-affiliates exceeded $700.0 million as of the end of the second quarter of that fiscal year. We have taken advantage of some reduced reporting burdens in this prospectus supplement and the documents incorporated by reference herein. Accordingly, the information contained herein may be different than the information you receive from other public companies in which you hold stock.

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THE OFFERING

Common stock to be offered by us	19,500,000 shares
Common stock to be outstanding immediately following this offering	45,090,065 shares (or 48,015,065 shares if the underwriters option described below is exercised in full)
Option to purchase additional shares from us	We have granted the underwriters an option for 30 days from the date of this prospectus supplement to purchase up to 2,925,000 additional shares of our common stock.
Use of proceeds	We expect to use the net proceeds from this offering (i) to fund our Phase 3 clinical trial for CMB305 in synovial sarcoma patients, (ii) to continue to develop CA21, our next-generation prime-boost product candidate, and file an IND for its initial development, and (iii) for working capital and general corporate purposes. See Use of Proceeds.
Risk factors	Investing in our common stock involves a high degree of risk. See Risk Factors and other information included in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference in this prospectus supplement and the accompanying prospectus for a discussion of factors you should carefully consider before deciding to invest in shares of our common stock.
NASDAQ Global Market symbol	IMDZ

The number of shares of our common stock outstanding immediately following this offering set forth above is based on 25,590,065 shares of our common stock outstanding as of June 30, 2017.

The number of shares of our common stock outstanding immediately following this offering excludes:

- 4,142,900 shares of our common stock issuable upon the exercise of stock options outstanding as of June 30, 2017 under our 2008 Equity Incentive Plan, or 2008 Plan, and 2014 Omnibus Incentive Plan, or 2014 Plan, at a weighted-average exercise price of $11.13 per share;

- 297,025 shares of our common stock reserved for issuance under our 2014 Plan upon settlement of restricted stock units outstanding as of June 30, 2017;

840,751 shares of our common stock reserved for issuance under our 2014 Plan as of June 30, 2017, as well as any future increases in the number of shares of our common stock reserved for issuance under the 2014 Plan; and

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484,822 shares of our common stock reserved and available for issuance under our 2014 Employee Stock Purchase Plan, or ESPP, as of June 30, 2017, as well as any future increases in the number of shares of our common stock reserved for issuance under the ESPP.

Except as otherwise indicated, the information in this prospectus supplement assumes:

no exercise of the outstanding stock options and no settlement of the restricted stock units described above; and

no exercise by the underwriters of their option to purchase additional shares of our common stock from us.

Certain members of our board of directors and certain other existing stockholders that are affiliated with members of our board of directors have indicated an interest in purchasing an aggregate of up to approximately 2,700,000 shares of our common stock in this offering on the same terms as those offered to the public. However, indications of interest are not binding agreements or commitments to purchase and any of these stockholders may determine to purchase more, fewer or no shares in this offering. In addition, the underwriters could determine to sell fewer shares to any of these stockholders than the stockholders indicate an interest in purchasing or could determine not to sell any shares to the stockholders.

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RISK FACTORS

An investment in our common stock involves a high degree of risk. You should carefully consider the following risk factors and the risk factors discussed under the section entitled Risk Factors contained in our Quarterly Report on Form 10-Q for the quarter ended June 30, 2017, which are incorporated by reference into this prospectus supplement in their entirety, together with all of the other information contained in this prospectus supplement and the accompanying prospectus or incorporated by reference into this prospectus supplement and the accompanying prospectus. The risks and uncertainties described in these documents are not the only ones we face. Other risks and uncertainties, including those that we do not currently consider material, may impair our business. If any of the risks discussed below or in our Quarterly Report on Form 10-Q for the quarter ended June 30, 2017 actually occur, our business, financial condition, operating results or cash flows could be materially adversely affected. This could cause the value of our common stock to decline, and you may lose all or part of your investment.

Risks Related to this Offering and Our Common Stock

We have broad discretion in the use of the net proceeds from this offering and may not use them effectively.

Our management will have broad discretion in the application of the net proceeds from this offering, and you will be relying on the judgment of our management regarding the application of these proceeds. You will not have the opportunity, as part of your investment decision, to assess whether we are using the proceeds appropriately. We expect to use the net proceeds from this offering (i) to fund our Phase 3 clinical trial for CMB305 in synovial sarcoma patients, (ii) to continue to develop CA21, our next-generation prime-boost product candidate, and file an IND for its initial development, and (iii) for working capital and general corporate purposes. However, our use of these net proceeds may differ substantially from our current plans and our management might not apply our net proceeds in ways that ultimately increase the value of your investment. If we do not invest or apply the net proceeds from this offering in ways that enhance stockholder value, we may fail to achieve expected financial results, which could cause our stock price to decline.

If you purchase our common stock in this offering, you will experience immediate and substantial dilution in your investment. You will experience further dilution if we issue additional equity securities in future financing transactions.

Since the public offering price per share of our common stock is substantially higher than the net tangible book value per share of our common stock, you will suffer immediate and substantial dilution in the net tangible book value of the common stock you purchase in this offering. As a result, investors purchasing shares of common stock in this offering will incur immediate dilution of approximately $0.81 per share, based upon the public offering price of $4.10 per share, and our net tangible book value as of June 30, 2017, after giving effect to this offering. See Dilution for a more detailed discussion of the dilution you will incur if you purchase common stock in this offering.

In addition, we have a significant number of stock options outstanding. To the extent that outstanding stock options have been or may be exercised, investors purchasing our common stock in this offering may experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders or result in downward pressure on the price of our common stock.

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Existing investors will experience significant dilution from this offering as a result of the recent significant decline in our stock price.

Our stock price has declined significantly since October 17, 2017. As a result of the decline in our stock price, the stock we sell in this transaction will constitute significant dilution to existing stockholders.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein, and any free writing prospectus that we have authorized for use in connection with this offering, contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, which we refer to as the Securities Act, and Section 21E of the Exchange Act of 1934, as amended, which we refer to as the Exchange Act, that involve substantial risks and uncertainties. The words believe, may, will, estimate, continue, anticipate, intend, could, would, project, plan, expect and similar expressions, or the negative or plural of t or expressions, are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. These forward-looking statements include, but are not limited to, statements concerning the following:

- our estimates regarding our expenses, revenues, anticipated capital requirements and our needs for additional financing;
- the implementation of our business model and strategic plans for our business and technology;
- the timing of the commencement, progress and receipt of data from any of our preclinical studies and clinical trials;
- the expected results of any clinical trial and the impact on the likelihood or timing of any regulatory approval;
- the scope of protection we establish and maintain for intellectual property rights covering our technology and product candidates;
- the timing or likelihood of regulatory filings and approvals;
- the outcome of any current or future litigation;
- developments relating to our competitors and our industry;
- our expectations regarding licensing, acquisitions and strategic operations;
- our expected uses of the proceeds from this offering; and

our expectations regarding the time during which we will be an emerging growth company under the JOBS Act under the federal securities laws.

In addition, you should refer to the Risk Factors section in the prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein, or in any free writing prospectus we may authorize for use in connection with the offering, for a discussion of other important factors, risks and uncertainties that may cause our actual results to differ materially from those expressed or implied by these forward- looking statements. We may not actually achieve the plans, intentions or expectations disclosed in our forward- looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make. Except as required by law, we undertake no obligation to update or revise any forward-looking statements to reflect new information or future events or developments.

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USE OF PROCEEDS

We expect to receive approximately $74.9 million in net proceeds from the sale of 19,500,000 shares of common stock offered by us in this offering (or approximately $86.2 million if the underwriters exercise their option to purchase additional shares in full), after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

We expect to use the net proceeds from this offering (i) to fund our Phase 3 clinical trial for CMB305 in synovial sarcoma patients, (ii) to continue to develop CA21, our next-generation prime-boost product candidate, and file an IND for its initial development, and (iii) for working capital and general corporate purposes.

Pursuant to the terms of the Confidential Settlement Agreement, dated October 17, 2016, between the Company and TheraVectys SA (TVS), we are obligated to pay $1.25 million to TVS within 30 days after the completion of this offering. We will pay this amount to TVS from our current cash, cash equivalents and marketable securities.

The expected use of the net proceeds from this offering represents our intentions based upon our current plans and business conditions, which could change in the future as our plans and business conditions evolve. The amounts and timing of our actual expenditures depend on numerous factors, including the progress of our preclinical development efforts, the ongoing status of and results from our clinical trials and other studies and any unforeseen cash needs. As a result, our management will have broad discretion in applying the net proceeds from this offering. Although we may use a portion of the net proceeds from this offering for the licensing or acquisition of, or the development of, additional product candidates, technologies, compounds, other assets or complementary businesses, we have no current understandings, agreements or commitments to do so. Pending their ultimate use, we intend to invest the net proceeds from this offering in interest-bearing, investment-grade securities.

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DIVIDEND POLICY

We have never declared or paid, and do not anticipate declaring, or paying in the foreseeable future, any cash dividends on our capital stock. Future determination as to the declaration and payment of dividends, if any, will be at the discretion of our board of directors and will depend on then existing conditions, including our operating results, financial conditions, contractual restrictions, capital requirements, business prospects and other factors our board of directors may deem relevant.

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DILUTION

If you invest in our common stock in this offering, your ownership interest will be immediately diluted to the extent of the difference between the public offering price per share of our common stock and the as adjusted net tangible book value per share of our common stock immediately after this offering. Net tangible book value per share of our common stock is determined at any date by subtracting our total liabilities from the amount of our total tangible assets and dividing the difference by the number of shares of our common stock deemed to be outstanding at that date.

Our net tangible book value as of June 30, 2017 was approximately $73.5 million, or $2.87 per share, based on 25,590,065 shares of common stock outstanding as of June 30, 2017. After giving effect to the sale of shares of common stock in this offering at the public offering price of $4.10 per share, after deducting underwriting discounts and commissions and estimated offering expenses payable by us, our as adjusted net tangible book value as of June 30, 2017 would have been $148.4 million, or $3.29 per share. This amount represents an immediate increase in net tangible book value of $0.42 per share of our common stock to existing stockholders and an immediate dilution in net tangible book value of $0.81 per share of our common stock to new investors purchasing shares of common stock in this offering.

The following table illustrates this dilution on a per share basis to new investors:

Public offering price per share		$ 4.10
Net tangible book value per share as of June 30, 2017	$ 2.87	
Increase in net tangible book value per share attributable to new investors	0.42	
As adjusted net tangible book value per share after this offering		3.29
Dilution per share to new investors purchasing common stock in this offering		$ 0.81

The information above assumes that the underwriters do not exercise their option to purchase additional shares. If the underwriters exercise their option in full, our as adjusted net tangible book value per share as of June 30, 2017 after giving effect to this offering would have been $3.33 per share, and the dilution in as adjusted net tangible book value per share to investors in this offering would have been $0.77 per share.

The number of shares of our common stock outstanding immediately following this offering is based on 25,590,065 shares of our common stock outstanding as of June 30, 2017 and excludes:

- 4,142,900 shares of our common stock issuable upon the exercise of stock options outstanding as of June 30, 2017 under our 2008 Plan and 2014 Plan at a weighted-average exercise price of $11.13 per share;

- 297,025 shares of our common stock reserved for issuance under our 2014 Plan upon settlement of restricted stock units outstanding as of June 30, 2017;

840,751 shares of our common stock reserved as of June 30, 2017 for issuance under our 2014 Plan as of June 30, 2017, as well as any future increases in the number of shares of our common stock reserved for issuance under the 2014 Plan; and

484,822 shares of our common stock reserved and available for issuance under our ESPP as of June 30, 2017, as well as any future increases in the number of shares of our common stock reserved for issuance under the ESPP.

To the extent that any options are exercised, new options are issued under our equity incentive plans or we otherwise issue additional shares of common stock in the future at a price less than the public offering price, there may be further dilution to new investors purchasing common stock in this offering.

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UNDERWRITING

Leerink Partners LLC, Cowen and Company, LLC and RBC Capital Markets, LLC are acting as representatives of each of the underwriters named below and as joint bookrunning managers for this offering. Subject to the terms and conditions set forth in the underwriting agreement among us and the underwriters, we have agreed to sell to the underwriters, and each of the underwriters has agreed, severally and not jointly, to purchase from us, the number of shares of common stock set forth opposite its name below.

Underwriter	Number of Shares
Leerink Partners LLC	8,287,500
Cowen and Company, LLC	7,312,500
RBC Capital Markets, LLC	3,900,000
Total	19,500,000

Subject to the terms and conditions set forth in the underwriting agreement, the underwriters have agreed, severally and not jointly, to purchase all of the shares sold under the underwriting agreement if any of the shares are purchased. If an underwriter defaults, the underwriting agreement provides that the purchase commitments of the non-defaulting underwriters may be increased or the underwriting agreement may be terminated.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act, or to contribute to payments the underwriters may be required to make in respect of those liabilities.

The underwriters are offering the shares, subject to prior sale, when, as and if issued to and accepted by them, subject to approval of legal matters by their counsel, including the validity of the shares, and other conditions contained in the underwriting agreement, such as the receipt by the underwriters of officers certificates and legal opinions. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

Commissions and Discounts

The representatives have advised us that the underwriters propose initially to offer the shares to the public at the public offering price set forth on the cover page of this prospectus and to dealers at that price less a concession not in excess of $0.1476 per share. After the initial offering of the shares, the public offering price, concession or any other term of the offering may be changed by the representatives.

The following table shows the public offering price, underwriting discounts and commissions and proceeds before expenses to us. The information assumes either no exercise or full exercise by the underwriters of their option to purchase additional shares.

	PER SHARE	TOTAL WITHOUT OPTION	TOTAL WITH OPTION
Public offering price	$ 4.10	$ 79,950,000	$ 91,942,500
Underwriting discounts and commissions	$ 0.2460	$ 4,797,000	$ 5,516,550

Proceeds to us, before expenses	$ 3.854	$ 75,153,000	$ 86,425,950

We estimate expenses payable by us in connection with this offering, other than the underwriting discounts and commissions referred to above, will be approximately $275,000. We also have agreed to

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reimburse the underwriters for up to $35,000 for their FINRA counsel fee. In accordance with FINRA Rule 5110, this reimbursed fee is deemed underwriting compensation for this offering.

Certain members of our board of directors and certain other existing stockholders that are affiliated with members of our board of directors have indicated an interest in purchasing an aggregate of up to approximately 2,700,000 shares of our common stock in this offering on the same terms as those offered to the public. However, indications of interest are not binding agreements or commitments to purchase and any of these stockholders may determine to purchase more, fewer or no shares in this offering. In addition, the underwriters could determine to sell fewer shares to any of these stockholders than the stockholders indicate an interest in purchasing or could determine not to sell any shares to the stockholders.

Option to Purchase Additional Shares

We have granted an option to the underwriters, exercisable for 30 days after the date of this prospectus, to purchase up to 2,925,000 additional shares at the public offering price, less the underwriting discounts and commissions. If the underwriters exercise this option, each underwriter will be obligated, subject to conditions contained in the underwriting agreement, to purchase a number of additional shares proportionate to that underwriter s initial amount reflected in the above table.

No Sales of Similar Securities

We, our executive officers and directors and all of our other existing security holders have agreed, subject to certain exceptions, not to sell or transfer any common stock or securities convertible into or exchangeable or exercisable for common stock, for 90 days after the date of this prospectus without first obtaining the written consent of Leerink Partners LLC on behalf of the underwriters. This lock-up provision applies to common stock owned now or acquired later by the person executing the agreement or for which the person executing the agreement later acquires the power of disposition.

NASDAQ Global Market Listing

Our common stock is listed on The NASDAQ Global Market under the symbol IMDZ.

Price Stabilization, Short Positions and Penalty Bids

Until the distribution of the shares is completed, SEC rules may limit underwriters and selling group members from bidding for and purchasing our common stock. However, the representatives may engage in transactions that stabilize the price of the common stock, such as bids or purchases to peg, fix or maintain that price.

In connection with the offering, the underwriters may purchase and sell our common stock in the open market. These transactions may include short sales, purchases on the open market to cover positions created by short sales and stabilizing transactions. Short sales involve the sale by the underwriters of a greater number of shares than they are required to purchase in the offering. Covered short sales are sales made in an amount not greater than the underwriters option described above. The underwriters may close out any covered short position by either exercising their option or purchasing shares in the open market. In determining the source of shares to close out the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the option granted to them. Naked short sales are sales in excess of such option. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be

downward pressure on the price of our common stock in the open market after pricing that could adversely affect investors who purchase in the offering. Stabilizing transactions consist of various bids for or purchases of shares of common stock made by the underwriters in the open market prior to the closing of the offering.

The underwriters may also impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the representatives have

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repurchased shares sold by or for the account of such underwriter in stabilizing or short covering transactions.

Similar to other purchase transactions, the underwriters purchases to cover the syndicate short sales may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of our common stock. As a result, the price of our common stock may be higher than the price that might otherwise exist in the open market. The underwriters may conduct these transactions on The NASDAQ Global Market, in the over-the-counter market or otherwise.

Neither we nor any of the underwriters make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. In addition, neither we nor any of the underwriters make any representation that the representatives will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

Electronic Distribution

In connection with the offering, certain of the underwriters or securities dealers may distribute prospectuses by electronic means, such as e-mail.

Other Relationships

The underwriters and certain of their affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, investment research, principal investment, hedging, financing and brokerage activities. Some of the underwriters and certain of their affiliates may in the future engage in investment banking and other commercial dealings in the ordinary course of business with us and our affiliates, for which they may in the future receive customary fees, commissions and expenses. We entered into a sales agreement with Cowen and Company, LLC, an underwriter in this offering, under which we may sell up to $50.0 million of our common stock through Cowen and Company, LLC, acting as our sales agent. Pursuant to the sales agreement, Cowen and Company, LLC will be entitled to customary fees and commissions for those transactions.

In addition, in the ordinary course of their business activities, the underwriters and their affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates. The underwriters and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

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Selling Restrictions

Canada

The shares of our common stock may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Any resale of the shares of our common stock must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus supplement and the accompanying prospectus (including any amendment thereto) contain a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser s province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser s province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 (or, in the case of securities issued or guaranteed by the government of a non-Canadian jurisdiction, section 3A.4) of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

Notice to Prospective Investors in the European Economic Area

In relation to each Member State of the European Economic Area (each, a Relevant Member State), no offer of shares may be made to the public in that Relevant Member State other than:

A. to any legal entity which is a qualified investor as defined in the Prospectus Directive;

B. to fewer than 100 or, if the Relevant Member State has implemented the relevant provision of the 2010 PD Amending Directive, 150, natural or legal persons (other than qualified investors as defined in the Prospectus Directive), as permitted under the Prospectus Directive, subject to obtaining the prior consent of the representatives; or

C. in any other circumstances falling within Article 3(2) of the Prospectus Directive,

provided that no such offer of shares shall require the Company or the representatives to publish a prospectus pursuant to Article 3 of the Prospectus Directive or supplement a prospectus pursuant to Article 16 of the Prospectus Directive.

Each person in a Relevant Member State who initially acquires any shares or to whom any offer is made will be deemed to have represented, acknowledged and agreed that it is a qualified investor within the meaning of the law in that Relevant Member State implementing Article 2(1)(e) of the Prospectus Directive. In the case of any shares being offered to a financial intermediary as that term is used in Article 3(2) of the Prospectus Directive, each such financial intermediary will be deemed to have represented, acknowledged and agreed that the shares acquired by it in the offer

have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer of any shares to the public other than their offer or resale in a Relevant Member State to qualified investors as so defined or in circumstances in which the prior consent of the representatives has been obtained to each such proposed offer or resale.

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We, the representatives and each of our and the representatives and their affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgements and agreements.

This prospectus has been prepared on the basis that any offer of shares in any Relevant Member State will be made pursuant to an exemption under the Prospectus Directive from the requirement to publish a prospectus for offers of shares. Accordingly, any person making or intending to make an offer in that Relevant Member State of shares which are the subject of the offering contemplated in this prospectus may only do so in circumstances in which no obligation arises for the company or any of the underwriters to publish a prospectus pursuant to Article 3 of the Prospectus Directive in relation to such offer. Neither the company nor the underwriters have authorized, nor do they authorize, the making of any offer of shares in circumstances in which an obligation arises for the company or the underwriters to publish a prospectus for such offer.

For the purpose of the above provisions, the expression an offer to the public in relation to any shares in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the shares to be offered so as to enable an investor to decide to purchase or subscribe the shares, as the same may be varied in the Relevant Member State by any measure implementing the Prospectus Directive in the Relevant Member State and the expression Prospectus Directive means Directive 2003/71/EC (including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member States) and includes any relevant implementing measure in the Relevant Member State and the expression 2010 PD Amending Directive means Directive 2010/73/EU.

Notice to Prospective Investors in Switzerland

The securities may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange, or the SIX, or on any other stock exchange or regulated trading facility in Switzerland. This document has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the securities or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, the Company or the securities have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of securities will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA (FINMA), and the offer of securities has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes, or CISA. The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of securities.

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LEGAL MATTERS

Certain legal matters relating to the issuance of the shares offered by this prospectus supplement will be passed upon for us by Cooley LLP, Palo Alto, California. Goodwin Procter LLP, New York, New York, is counsel to the underwriters in connection with this offering.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2016, as set forth in their report, which is incorporated by reference in this prospectus supplement. Our financial statements are incorporated by reference in reliance on Ernst & Young LLP s report, given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We are currently subject to the reporting requirements of the Exchange Act, and in accordance therewith file periodic reports, proxy statements and other information with the SEC. You may read and copy (at prescribed rates) any such reports, proxy statements and other information at the SEC s Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the public reference room. Our SEC filings are also available to you on the SEC s website at www.sec.gov and in the Investors section of our website at www.immunedesign.com. Our website and the information contained on that site, or connected to that site, are not incorporated into and are not a part of this prospectus.

This prospectus supplement and accompanying prospectus are part of a registration statement on Form S-3 we filed with the SEC and do not contain all of the information in the registration statement. The full registration statement may be obtained from the SEC or us, as provided below. Other documents establishing the terms of the offered securities are or may be filed as exhibits to the registration statement. Statements in this prospectus supplement about these documents are summaries and each statement is qualified in all respects by reference to the document to which it refers. You should refer to the actual documents for a more complete description of the relevant matters. You may inspect a copy of the registration statement at the SEC s Public Reference Room in Washington, D.C. or through the SEC s website, as provided above.

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INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC s rules allow us to incorporate by reference information into this prospectus supplement and the accompanying prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. We incorporate by reference the documents listed below and any future information filed with the SEC under Sections 13(a), 13(c), 14, or 15(d) of the Exchange Act between the date of this prospectus supplement and the termination of this offering, provided, however, that we are not incorporating any information furnished under Item 2.02 or Item 7.01 of any Current Report on Form 8-K:

- our Annual Report on Form 10-K for the fiscal year ended December 31, 2016, filed with the SEC on March 7, 2017;
- the information specifically incorporated by reference into our Annual Report on Form 10-K from our Definitive Proxy Statement on Schedule 14A filed with the SEC on April 26, 2017;
- our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2017 and June 30, 2017, filed with the SEC on May 4, 2017 and August 2, 2017, respectively;
- our Current Reports on Form 8-K filed with the SEC on January 10, 2017, May 17, 2017, June 15, 2017, July 3, 2017, August 31, 2017, September 8, 2017, October 16, 2017 and October 23, 2017, and the Current Report on Form 8-K/A filed with the SEC on March 3, 2017; and
- the description of our common stock contained in our Registration Statement on Form 8-A filed with the SEC on July 22, 2014, under Section 12(b) of the Exchange Act, including any amendments or reports filed for the purpose of updating such description.

The information incorporated by reference is deemed to be part of this prospectus supplement, and subsequent information that we file with the SEC will automatically update and supersede that information. Any statement contained in a previously filed document incorporated by reference will be deemed to be modified or superseded for purposes of this prospectus supplement to the extent that a statement contained in this prospectus supplement modifies or replaces that statement. The SEC file number for the documents incorporated by reference in this prospectus supplement is 001-36561.

You may obtain copies of any of these filings by contacting us at the address and telephone number indicated below or by contacting the SEC as described above in the section titled Where You Can Find More Information. Documents incorporated by reference are available from us without charge, excluding all exhibits unless an exhibit has been specifically incorporated by reference into this prospectus supplement, by requesting them in writing or by telephone at:

Immune Design Corp.

Attention: Stephen R. Brady, Executive Vice President, Strategy and Finance

601 Gateway Blvd., Suite 250

South San Francisco, California 94080

(650) 887-6717

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PROSPECTUS

$250,000,000

Common Stock

From time to time, we may offer and sell shares of our common stock with total gross proceeds of up to $250,000,000. Each time we offer shares of our common stock, we will provide a supplement to this prospectus that contains specific information about the offering. The supplement may also add, update or change information contained in this prospectus with respect to that offering. We may also authorize one or more free writing prospectuses to be provided to you in connection with an offering. You should carefully read this prospectus, the information incorporated by reference in this prospectus, any prospectus supplement and any related free writing prospectus before you invest.

We may sell shares of common stock directly to investors, to or through one or more underwriters, dealers and agents, or through a combination of these methods. If any underwriters, dealers or agents are involved in the sale of our common stock, their names and any applicable purchase price, fee, commission or discount arrangement between or among them, and any applicable over-allotment options, will be set forth, or will be calculable from the information set forth, in the applicable prospectus supplement. See the sections of this prospectus titled About this Prospectus and Plan of Distribution for more information. **This prospectus may not be used to offer or sell any common stock unless accompanied by a prospectus supplement.**

Our common stock is listed on The NASDAQ Global Market under the symbol IMDZ. As of August 10, 2015, the closing price of our common stock was $22.75 per share.

Investing in our common stock involves risks. Please see Risk Factors on page 3 and as updated in our future filings made with the Securities and Exchange Commission, which are incorporated by reference in this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is December 29, 2015.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the U.S. Securities and Exchange Commission, or the SEC, using a shelf registration process. Under this shelf registration process, we may offer and sell shares of our common stock in one or more offerings for total gross proceeds of up to $250,000,000.

Each time that we offer shares of our common stock under this registration statement, we will provide a supplement to this prospectus that contains specific information about the terms of that offering. If there is any inconsistency between the information in this prospectus and the applicable prospectus supplement, you should rely on the prospectus supplement. Before purchasing our common stock, you should carefully read this prospectus, any applicable prospectus supplement and any related free writing prospectus, together with the additional information described under the headings Where You Can Find More Information and Incorporation of Certain Information by Reference.

This prospectus may not be used to offer or sell any common stock unless it is accompanied by a prospectus supplement.

You should rely only on the information incorporated by reference or provided in this prospectus. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We will not make an offer to sell common stock in any jurisdiction where the offer or sale is not permitted.

The information appearing in this prospectus, any applicable prospectus supplement or any related free writing prospectus is accurate only as of the date on the front of such document and any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus, any applicable prospectus supplement or any related free writing prospectus, or any sale of our common stock. Our business, financial condition, results of operations and prospects may have changed since those dates.

This prospectus contains and incorporates by reference, and any prospectus supplement or free writing prospectus may contain and incorporate by reference, market data and industry statistics and forecasts that are based on independent industry publications and other publicly available information. While we believe that each of these studies and publications is reliable, we have not independently verified market and industry data from third-party sources. Although we are not aware of any misstatements regarding the market and industry data presented in this prospectus and the documents incorporated herein by reference, these estimates involve risks and uncertainties and are subject to change based on various factors, including those discussed under the heading Risk Factors contained in the applicable prospectus supplement and any related free writing prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus. Accordingly, investors should not place undue reliance on this information.

Except as otherwise indicated herein or as the context otherwise requires, references in this prospectus to Immune Design, the company, we, us, our and similar references refer to Immune Design Corp. The Immune Design logo, IMDZVex, ZVex and GLAAS are our unregistered trademarks. This prospectus also contains registered marks, trademarks and trade names of other companies. All other trademarks, registered marks and trade names appearing in this prospectus are the property of their respective holders.

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PROSPECTUS SUMMARY

This summary contains a general summary of the information contained in this prospectus. It may not include all the information that is important to you. You should read the entire prospectus, the prospectus supplement delivered with the prospectus, if any, and the documents incorporated by reference before making an investment decision.

Our Company

We are a clinical stage immunotherapy company with next-generation *in vivo* approaches designed to enable the body s immune system to fight disease. We have engineered our primary product candidates, CMB305 and G100, to activate the immune system s natural ability to create tumor-specific cytotoxic T cells to fight cancer. CMB305 and G100, as well as our partnered programs, are the result of our two discovery platforms, ZVex™ and GLAAS™, which we believe have the potential to generate products able to treat a broad cancer patient population either as individual therapies or in combination with other immuno-oncology mechanisms of action, such as checkpoint inhibitors. CMB305 and G100 utilize multiple immuno-oncology approaches and, we believe, address the shortcomings of existing therapies. The following is our primary product development pipeline:

CMB305 is a prime-boost approach, in which an agent called LV305 from our ZVex platform is dosed sequentially with an agent from our GLAAS platform, G305. CMB305 is designed to synergistically induce anti-tumor cytotoxic T lymphocytes, or CTLs, to target tumors that express NY-ESO-1, a tumor antigen found in a broad set of tumors. Both LV305 and G305 completed separate Phase 1 dose escalation trials with no related serious adverse events and evidence of immunogenicity. In March 2015, we began dosing CMB305 in a Phase 1b clinical trial for the treatment of four solid tumor types, and in June 2015, we began an expansion trial of CMB305 at the highest dose studied in the dose escalation portion. We expect data to be available from the dose-escalation portion of this trial by the end of 2015 and data from the expansion arm in mid-2016. While we intend to focus our ZVex-based development efforts on CMB305, we are conducting an expansion trial of LV305 at the highest dose studied in its dose-escalation trial, including an arm studying LV305 with an anti-PD1 antibody in melanoma patients who have an inadequate response to anti-PD1 therapy.

G100, from the GLAAS platform, is our second immuno-oncology agent that we designed to generate a robust anti-tumor immune response when administered directly to the tumor micro-environment. In May 2015, we completed enrollment of a Phase 1 clinical trial of G100 dosed as part of a therapeutic regimen, including radiation at the Fred Hutchinson Cancer Research Center in patients with Merkel cell carcinoma, and expect full data from this trial to be available by the end of 2015.

Based on data available to date, we plan to continue development of both CMB305 and G100. We are in the planning stages of initiating a potential randomized Phase 2 clinical trial studying CMB305 in patients with soft tissue sarcoma. In addition, we are initiating a Phase 1/2 clinical trial of G100 in patients with non-Hodgkin Lymphoma. Although data may be available as of a given date, we may elect to disclose the data at an appropriate medical meeting at a later date.

We believe our approach to fighting cancer is the first of its kind. We utilize ZVex and GLAAS to develop product candidates such as CMB305 and G100 that work *in vivo* and are designed to create and expand diverse armies of CTLs to fight tumors. An *in vivo* approach is preferred because it addresses both the cumbersome administration and the need for patient customization inherent in *ex vivo* approaches, such as engineered CD8 T cells. The fundamental

discoveries underlying ZVex originated with one of our founders, Nobel laureate David Baltimore, Ph.D. Dr. Baltimore and his

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colleagues theorized that a lentivirus, which is a virus that works in immune cells such as dendritic cells, or DCs, could be engineered to selectively deliver the specific genetic information of a tumor marker, called an antigen, directly to DCs in the skin. The expression of this antigen would trigger an immune response of CTLs to eliminate the tumor. GLAAS, in comparison, is a highly potent synthetic stimulator of a specific cellular receptor called TLR4 that is present in DCs. Activation of DCs through TLR4 can safely trigger an anti-tumor immune response and synergize with either pre-existing CTLs (in the case of G100) or CTLs generated by a ZVex product candidate (in the case of CMB305) for what we believe will be a greater degree of tumor killing than either approach alone.

Our Corporate Information

We were incorporated under the laws of the State of Delaware in February 2008. Our principal executive offices are located at 1616 Eastlake Ave. E., Suite 310, Seattle, Washington 98102, and our telephone number is (206) 682-0645.

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RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider and evaluate all of the information contained in this prospectus, any accompanying prospectus supplement and any free writing prospectus, and in the documents we incorporate by reference in this prospectus, before you decide to invest. In particular, you should carefully consider and evaluate the risks and uncertainties described in Part I Item 1A. Risk Factors of our most recent Quarterly Report on Form 10-Q, and any subsequent filings with the SEC that we file after the date of this prospectus, and all other information contained or incorporated by reference in this prospectus, as updated by our subsequent filings under the Securities Exchange Act of 1934, as amended, which we refer to as the Exchange Act in this prospectus, and the risk factors and other information contained in the applicable prospectus supplement. Any of the risks and uncertainties set forth therein could materially and adversely affect our business, results of operations and financial condition, which in turn could materially and adversely affect the trading price or value of our common stock. As a result, you could lose all or part of your investment. Please also read carefully the section titled Special Note Regarding Forward-Looking Statements.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and any accompanying prospectus supplement, including the documents incorporated by reference herein and therein, and any free writing prospectus that we have authorized for use in connection with this offering contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, which we refer to as the Securities Act, and Section 21E of the Exchange Act that involve substantial risks and uncertainties. In some cases you can identify these statements by forward-looking words such as believe, may, will, estimate, continue, anticipate, intend, could, would, project, plan, expect or similar expressions, or th plural of these words or expressions. Discussions containing these forward-looking statements may be found, among other places, in Business, Risk Factors and Management s Discussion and Analysis of Financial Condition and Results of Operations incorporated by reference from our most recent Annual Report on Form 10-K and in our most recent Quarterly Report on Form 10-Q filed with the SEC, as well as any amendments thereto reflected in subsequent filings with the SEC. These statements involve risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from the information expressed or implied by these forward-looking statements. These forward-looking statements include, but are not limited to, statements concerning the following:

- our estimates regarding our expenses, revenues, anticipated capital requirements and our needs for additional financing;
- the implementation of our business model and strategic plans for our business and technology;
- the timing of the commencement, progress and receipt of data from any of our preclinical and clinical trials;
- the expected results of any clinical trial and the impact on the likelihood or timing of any regulatory approval;
- the scope of protection we establish and maintain for intellectual property rights covering our technology;
- the timing or likelihood of regulatory filings and approvals;
- the outcome of any current or future litigation;
- developments relating to our competitors and our industry; and
- our expectations regarding licensing, acquisitions and strategic operations.

In addition, you should refer to the Risk Factors section in the applicable prospectus supplement, or in any free writing prospectus we may authorize for use in connection with a specific offering, for a discussion of other important factors, risks and uncertainties that may cause our actual results to differ materially from those expressed or implied by these

forward-looking statements. Given these other important factors, risks and uncertainties, you should not place undue reliance on these forward-looking statements. Also, these forward-looking statements represent our estimates and assumptions only as of the date such forward-looking statements are made. You should carefully read this prospectus, together with the information incorporated herein by reference as described in the section titled Incorporation of Certain Information by Reference, completely and with the understanding that our actual future results may be materially different from what we expect. We can give no assurances that any of the events anticipated by the forward-looking statements will occur or, if any of them do, what impact they will have on our business, results of operations and financial condition.

You should rely only on information contained or incorporated by reference in this prospectus, the registration statement of which this prospectus is a part, including the exhibits that we have filed with the registration statement, and the applicable prospectus supplement or in any free writing prospectus

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we may authorize for use in connection with a specific offering. You should understand that our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements in the foregoing documents by these cautionary statements.

Except as required by law, we undertake no obligation to update or revise any forward-looking statements to reflect new information or future events or developments. You should not assume that our silence over time means that actual events are bearing out as expressed or implied in such forward-looking statements. Before deciding to invest, you should carefully consider the risk factors discussed and incorporated by reference in this prospectus and any prospectus supplement or free writing prospectus and, if required, any post-effective amendment to the registration statement of which this prospectus is a part.

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USE OF PROCEEDS

Unless otherwise indicated in any prospectus supplement or free writing prospectus, the net proceeds from the sale of our common stock offered by this prospectus will be used for general corporate purposes and working capital needs. As a result, unless otherwise indicated in the prospectus supplement or free writing prospectus, our management will have broad discretion to allocate the net proceeds of the offerings. Pending their ultimate use, we intend to invest the net proceeds in a variety of securities, including commercial paper, government and non-government debt securities and/or money market funds that invest in such securities.

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DESCRIPTION OF COMMON STOCK

The following describes the common stock that we may offer under this prospectus, including the material provisions of our amended and restated certificate of incorporation and our amended and restated bylaws, the amended and restated investor rights agreement to which we and certain of our stockholders are parties and certain provisions of the General Corporation Law of the State of Delaware. Because the following is only a summary, it does not contain all of the information that may be important to you. For a complete description, you should refer to our amended and restated certificate of incorporation, amended and restated bylaws and amended and restated investor rights agreement, copies of which have been filed with the SEC. See Where You Can Find More Information and Incorporation of Certain Information by Reference.

General

Our amended and restated certificate of incorporation authorizes us to issue up to 100,000,000 shares of common stock, par value $0.001 per share, and 10,000,000 shares of preferred stock, par value $0.001 per share. As of August 3, 2015, there were outstanding:

- 20,129,580 shares of common stock; and
- 2,310,102 shares of common stock subject to outstanding options.

As of August 3, 2015, we had 24 holders of record of our common stock. The actual number of stockholders is greater than this number of record holders and includes stockholders who are beneficial owners, but whose shares are held in street name by brokers and other nominees. This number of holders of record also does not include stockholders whose shares may be held in trust by other entities.

Common Stock

Voting Rights. Each holder of common stock is entitled to one vote for each share on all matters submitted to a vote of the stockholders.

Dividends. Subject to preferences that may apply to any outstanding preferred stock, holders of our common stock are entitled to receive ratably any dividends that our board of directors may declare out of funds legally available for that purpose.

Liquidation. In the event of our liquidation, dissolution or winding up, holders of our common stock are entitled to share ratably in all assets remaining after payment of liabilities and the liquidation preference of any outstanding preferred stock.

Rights and Preferences. Holders of our common stock have no preemptive, conversion, subscription or other rights, and there are no redemption or sinking fund provisions applicable to our common stock. The rights, preferences and privileges of the holders of our common stock are subject to and may be adversely affected by the rights of the holders of shares of any series of our preferred stock that we may designate in the future.

Fully Paid and Nonassessable. All outstanding shares of our common stock are fully paid and non-assessable, and the shares of common stock to be issued upon completion of this offering will be fully paid and non-assessable.

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Registration Rights

Holders of 8,892,569 shares of our common stock have the right to demand that we file a registration statement or request that we cover their shares by a registration statement that we otherwise file, as described below.

Demand Registration Rights

Certain holders of common stock having demand registration rights may request that we register all or a portion of their shares of common stock for sale under the Securities Act in an offering with an aggregate offering price of at least $5.0 million. We will effect the registration as requested, unless, in the good faith judgment of our board of directors, such registration would be materially detrimental to the company and its stockholders and should be delayed. In addition, when we are eligible for the use of Form S-3, or any successor form, holders of the shares having demand registration rights may make unlimited requests that we register all or a portion of their common stock for sale under the Securities Act on Form S-3, or any successor form, so long as the aggregate price to the public in connection with any such offering is at least $1.0 million.

Incidental Registration Rights

In addition, if at any time we register any shares of our common stock, the holders of all shares having piggyback registration rights are entitled to notice of the registration and to include all or a portion of their shares of common stock in the registration.

Other Provisions

In the event that any registration in which the holders of registrable shares participate pursuant to the amended and restated investor rights agreement is an underwritten public offering, the number of registrable shares to be included may, in specified circumstances, be limited due to market conditions.

We will pay all registration expenses, other than underwriting discounts and selling commissions, and the reasonable fees and expenses of a single special counsel for the selling stockholders, related to any demand, piggyback and Form S-3 registration. The amended and restated investor rights agreement contains customary cross-indemnification provisions, pursuant to which we must indemnify the selling stockholders in the event of material misstatements or omissions in the registration statement attributable to us, and they must indemnify us for material misstatements or omissions in the registration statement attributable to them. The demand, piggyback and Form S-3 registration rights described above will expire upon the earlier of (i) four years after the closing of our initial public offering, (ii) with respect to each stockholder, the date when such stockholder can sell all of its registrable shares, as defined in the amended and restated investor rights agreement, in a single transaction pursuant to Rule 144 of the Securities Act, (iii) the completion of an acquisition, as defined in our amended and restated certificate of incorporation that was in effect at the time of entering into the amended and restated investor rights agreement, or (iv) the completion of an asset transfer, as defined in our amended and restated certificate of incorporation that was in effect at the time of entering into the amended and restated investor rights agreement.

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Anti-Takeover Provisions

Our Certificate of Incorporation and Bylaws

Our amended and restated certificate of incorporation and amended and restated bylaws include a number of provisions that may deter or impede unsolicited or hostile takeovers or changes of control or management. These provisions include:

Issuance of undesignated preferred stock. Our board of directors has the authority, without further action by the stockholders, to issue up to 10,000,000 shares of undesignated preferred stock with rights and preferences, including voting rights, designated from time to time by our board of directors. The existence of authorized but unissued shares of preferred stock enables our board of directors to make it more difficult or to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise.

Classified board. Our amended and restated certificate of incorporation provides for a classified board of directors consisting of three classes of directors, with staggered three-year terms. Only one class of directors will be elected at each annual meeting of our stockholders, with the other classes continuing for the remainder of their respective three-year terms. This provision may have the effect of delaying a change in control of our board of directors.

Board of directors vacancies. Our amended and restated certificate of incorporation and amended and restated bylaws authorize only our board of directors to fill vacant directorships. In addition, the number of directors constituting our board of directors may be set only by resolution adopted by a majority vote of our entire board of directors. These provisions prevent a stockholder from increasing the size of our board of directors and gaining control of our board of directors by filling the resulting vacancies with its own nominees.

Stockholder action; special meetings of stockholders. Our amended and restated certificate of incorporation provides that our stockholders may not take action by written consent, but may only take action at annual or special meetings of our stockholders. Stockholders will not be permitted to cumulate their votes for the election of directors. Our amended and restated certificate of incorporation further provides that special meetings of our stockholders may be called only by the chairman of our board of directors or by a majority of our board of directors.

Advance notice requirements for stockholder proposals and director nominations. Our amended and restated bylaws provide advance notice procedures for stockholders seeking to bring business before our annual meeting of stockholders or to nominate candidates for election as directors at our annual meeting of stockholders. Our amended and restated bylaws also specify certain requirements as to the form and content of a stockholder s notice. These provisions may make it more difficult for our stockholders to bring matters before our annual meeting of stockholders or to nominate directors at our annual meeting of stockholders.

These provisions are intended to enhance the likelihood of continued stability in the composition of our board of directors and its policies and to discourage certain types of transactions that may involve an actual or threatened acquisition of us. These provisions are designed to reduce our vulnerability to an unsolicited acquisition proposal. The

provisions also are intended to discourage certain tactics that may be used in proxy fights. However, these provisions could have the effect of discouraging others from making tender offers for our shares and, as a consequence, they may also reduce fluctuations in the market price of our shares that could result from actual or rumored takeover attempts.

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Section 203 of the General Corporation Law of the State of Delaware

We are subject to Section 203 of the General Corporation Law of the State of Delaware, or DGCL, which prohibits a Delaware corporation from engaging in a business combination with any interested stockholder for a period of three years following the date the person became an interested stockholder, with the following exceptions:

- before such date, the board of directors of the corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested holder;
- upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction began, excluding for purposes of determining the voting stock outstanding (but not the outstanding voting stock owned by the interested stockholder) those shares owned (a) by persons who are directors and also officers and (b) pursuant to employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or after such date, the business combination is approved by the board of directors and authorized at an annual or special meeting of the stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock that is not owned by the interested stockholder.

In general, Section 203 defines business combination to include the following:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder;
- subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- any transaction involving the corporation that has the effect of increasing the proportionate share of the stock or any class or series of the corporation beneficially owned by the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits by or through the corporation.

In general, Section 203 defines an interested stockholder as an entity or person who, together with the entity s or person s affiliates and associates, beneficially owns, or is an affiliate of the corporation and within three years prior to the time of determination of interested stockholder status did own, 15% or more of the outstanding voting stock of the

corporation.

A Delaware corporation may opt out of these provisions with an express provision in its certificate of incorporation. We have not opted out of these provisions, which may discourage or prevent mergers or other takeover or change of control attempts of our company.

Choice of Forum

Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware will be the exclusive forum for any derivative action or proceeding brought on our behalf, any action asserting a breach of fiduciary duty owed by any director, officer or employee to us or our stockholders, any action asserting a claim against us arising pursuant to the DGCL or any action

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asserting a claim against us that is governed by the internal affairs doctrine. However, several lawsuits involving other companies have been brought challenging the validity of choice of forum provisions in certificates of incorporation, and it is possible that a court could rule that this provision is inapplicable or unenforceable.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A.

Listing

Our common stock is listed on The NASDAQ Global Market under the trading symbol IMDZ.

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PLAN OF DISTRIBUTION

We may sell our common stock in any of the ways described below or in any combination or any other way set forth in an applicable prospectus supplement from time to time:

to or through underwriters or dealers;

through one or more agents; or

directly to purchasers or to a single purchaser.

Each time we sell our common stock, we will provide a prospectus supplement (and any related free writing prospectus that we may authorize to be provided to you) that will describe the method of distribution and set forth the offering terms, including the name or names of any underwriters, dealers or agents, the purchase price and the proceeds to us, any over-allotment options under which underwriters may purchase additional common stock from us, any underwriting discounts, commissions and other items constituting underwriters discounts or commissions or agency fees and other items constituting underwriters or agents compensation and any securities exchanges on which our common stock may be listed.

We may use one or more underwriters in the sale of our common stock, in which case the common stock will be acquired by the underwriter or underwriters for their own account and may be resold from time to time in one or more transactions either:

at a fixed price or prices, which may be changed;

at market prices prevailing at the time of sale;

at prices related to such prevailing market prices; or

at negotiated prices.

We may directly solicit offers to purchase our common stock. Agents designated by us from time to time may also solicit offers to purchase our common stock. Any agent designated by us, who may be deemed to be an underwriter as that term is defined in the Securities Act, involved in the offer or sale of our common stock will be named, and any commissions payable by us to such agent will be set forth in the prospectus supplement.

If a dealer is utilized in the sale of our common stock, we will sell the offered securities to the dealer, as principal. The dealer, who may be deemed to be an underwriter as that term is defined in the Securities Act, may then resell our common stock to the public at varying prices to be determined by the dealer at the time of resale.

If an underwriter is, or underwriters are, used in the sale, we will execute an underwriting agreement with the underwriters at the time of sale to the underwriters. The names of the underwriters will be set forth in the prospectus supplement, which will be used by the underwriters to make resales of our common stock to the public. In connection with the sale of our common stock, the underwriters may be deemed to have received compensation from us in the form of underwriting discounts or commissions and may also receive commissions from purchasers of our common stock for whom they may act as agents. Underwriters may also sell our common stock to or through dealers, and the dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters and/or commissions from the purchasers for whom they may act as agents.

If so indicated in the applicable prospectus supplement, we will authorize underwriters, dealers or other persons to solicit offers by certain institutions to purchase our common stock from us at the

public offering price set forth in the applicable prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a future date or dates. Institutions with which these contracts may be made include commercial and savings banks, insurance companies, pension funds, investment companies, educational and charitable institutions and others. The obligations of any purchasers under any delayed delivery contract will not be subject to any conditions except that:

- the purchase of our common stock shall not at the time of delivery be prohibited under the laws of the jurisdiction to which the purchaser is subject, and
- if our common stock is also being sold to underwriters, we will have sold to the underwriters our common stock not sold for delayed delivery.

The underwriters, dealers and other persons will not have any responsibility in respect of the validity or performance of such contracts. The prospectus supplement relating to the contracts will set forth the price to be paid for our common stock pursuant to the contracts, the commission payable for solicitation of the contracts and the date or dates in the future for delivery of our common stock pursuant to the contracts.

Unless otherwise set forth in the applicable prospectus supplement, the obligations of underwriters to purchase our common stock will be subject to certain conditions precedent and such underwriters will be obligated to purchase all of our common stock, if any shares of our common stock are purchased. In connection with the offering of our common stock, we may grant to the underwriters an option to purchase additional shares of our common stock to cover over-allotments at the offering price, with an additional underwriting commission, as may be set forth in the accompanying prospectus supplement. If we grant any over-allotment option, the terms of such over-allotment option will be set forth in the prospectus supplement.

Underwriters, dealers, remarketing firms and agents may be entitled, under agreements that they may enter into with us, to indemnification by us against certain civil liabilities, including liabilities under the Securities Act, or to contribution with respect to payments which they may be required to make in respect thereof and may engage in transactions with, or perform services for, us in the ordinary course of business.

Any underwriter may engage in over-allotment, stabilizing transactions, short-covering transactions and penalty bids in accordance with Regulation M under the Exchange Act. Over-allotment involves sales in excess of the offering size, which create a short position. Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. Short-covering transactions involve purchases of our common stock in the open market after the distribution is completed to cover short positions. Penalty bids permit the underwriters to reclaim a selling concession from a dealer when the common stock originally sold by the dealer is purchased in a covering transaction to cover short positions. Those activities may cause the price of our common stock to be higher than it would otherwise be. If commenced, the underwriters may discontinue any of the activities at any time.

The specific terms of any lock-up provisions in respect of any given offering will be described in the applicable prospectus supplement.

The underwriters, dealers and agents may engage in transactions with us, or perform services for us, in the ordinary course of business for which they receive compensation. The anticipated date of delivery of our common stock will be set forth in the applicable prospectus supplement relating to each offer.

In compliance with guidelines of the Financial Industry Regulatory Authority, or FINRA, the maximum consideration or discount to be received by any FINRA member or independent broker dealer may not exceed 8% of the aggregate amount of our common stock offered pursuant to this prospectus and any applicable prospectus supplement.

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LEGAL MATTERS

The legal validity of the common stock offered by this prospectus will be passed upon for us by Hogan Lovells US LLP, Menlo Park, California. Additional legal matters may be passed upon for us or any underwriters, dealers or agents by counsel that we will name in the applicable prospectus supplement.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2014, as set forth in their report, which is incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements are incorporated by reference in reliance on Ernst & Young LLP s report, given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We are currently subject to the reporting requirements of the Exchange Act, and in accordance therewith file periodic reports, proxy statements and other information with the SEC. You may read and copy (at prescribed rates) any such reports, proxy statements and other information at the SEC s Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the public reference room. Our SEC filings are also available to you on the SEC s website at www.sec.gov and in the Investors section of our website at www.immunedesign.com. Our website and the information contained on that site, or connected to that site, are not incorporated into and are not a part of this prospectus.

This prospectus and any prospectus supplement are part of a registration statement that we filed with the SEC and do not contain all of the information in the registration statement. The full registration statement may be obtained from the SEC or us, as provided below. Forms of documents establishing the terms of the offered securities are or may be filed as exhibits to the registration statement. Statements in this prospectus or any prospectus supplement about these documents are summaries and each statement is qualified in all respects by reference to the document to which it refers. You should refer to the actual documents for a more complete description of the relevant matters. You may inspect a copy of the registration statement at the SEC s Public Reference Room in Washington, D.C. or through the SEC s website, as provided above.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC s rules allow us to incorporate by reference information into this prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is deemed to be part of this prospectus, and subsequent information that we file with the SEC will automatically update and supersede that information. Any statement contained in a previously filed document incorporated by reference will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus modifies or replaces that statement.

We incorporate by reference our documents listed below and any future filings made by us with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Exchange Act, including those made after the date of the initial filing of the registration statement of which this prospectus is a part and prior to effectiveness of such registration statement, until we file a post-effective amendment that indicates the

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termination of the offering of the securities made by this prospectus and will become a part of this prospectus from the date that such documents are filed with the SEC. We are not, however, incorporating by reference any documents or portions thereof, whether specifically listed below or filed in the future, that are not deemed filed with the SEC, including any information furnished pursuant to Items 2.02 or 7.01 of Form 8-K or related exhibits furnished pursuant to Item 9.01 of Form 8-K.

This prospectus and any accompanying prospectus supplement incorporate by reference the documents set forth below that have previously been filed with the SEC:

- our Annual Report on Form 10-K for the year ended December 31, 2014, which was filed with the SEC on March 31, 2015 (including information incorporated by reference in the Form 10-K from our definitive proxy statement on Schedule 14A, which was filed with the SEC on April 15, 2015);

- our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2015 and June 30, 2015, filed with the SEC on May 14, 2015 and August 12, 2015, respectively;

- our Current Reports on Form 8-K, which were filed with the SEC on January 9, 2015, March 10, 2015, March 11, 2015, March 19, 2015, May 18, 2015 and June 4, 2015; and

- the description of our common stock contained in our registration statement on Form 8-A, which was filed on July 22, 2014, including any amendments or reports filed for the purpose of updating the description.

All filings filed by us pursuant to the Exchange Act after the date of the initial filing of the registration statement of which this prospectus is a part and prior to effectiveness of the registration statement shall be deemed to be incorporated by reference into this prospectus.

Any statement contained in a document incorporated by reference in this prospectus shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus or in any other subsequently filed document that also is or is deemed to be incorporated by reference in this prospectus modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

You may obtain copies of any of these filings by contacting us at the address and telephone number indicated below or by contacting the SEC as described above in the section titled Where You Can Find More Information. Documents incorporated by reference are available from us without charge, excluding all exhibits unless an exhibit has been specifically incorporated by reference into this prospectus, by requesting them in writing or by telephone at:

Immune Design Corp.

Attention: Stephen R. Brady

Executive Vice President, Strategy and Finance

601 Gateway Blvd., Suite 250

South San Francisco, California 94080

(650) 887-6717

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19,500,000 Shares

Common Stock

PROSPECTUS SUPPLEMENT

Joint Book-Running Managers

Leerink Partners **Cowen** **RBC Capital Markets**

October 24, 2017