March 1, 2017

Immune Design to Present New Tumor Eradication Data for Systemic Plus Intratumoral Immunization at the American Association for Cancer Research (AACR) Annual Meeting 2017

— Preclinical Data Demonstrates Tumor Eradication with "Prime-Pull" Immunotherapy Approach Combining a ZVex® vector and G100 —

— ZVex Causes Potent Activation of Dendritic Cells —

SEATTLE and SOUTH SAN FRANCISCO, Calif., March 01, 2017 (GLOBE NEWSWIRE) -- Immune Design (Nasdaq:IMDZ), a clinical-stage immunotherapy company focused on oncology, today announced that new preclinical data showing the broad anti-tumor activity on its "prime-pull" approach, as well as the ability of its ZVex vectors to activate dendritic cells potently, will be presented at the upcoming American Association for Cancer Research (AACR) 2017 Annual Meeting, being held from April 1-5, 2017 in Washington D.C.

"These AACR data illustrate the significant local and systemic immune responses that the combination of ZVex vectors with G100 may generate. We observed complete eradication of large, established B16 tumors in animal models, which previously has been achieved only with complex regimens," said Jan ter Meulen, MD, PhD, Chief Scientific Officer at Immune Design. "In addition, we will present additional data supporting the ability of ZVex vectors to generate potent activation of human dendritic cells."

Immune Design will present data showing the "Prime-Pull" concept that involves the (i) intradermal administration of the dendritic cell (DC)-targeting ZVex vector expressing a tumor-associated antigen and (ii) intratumoral injection of G100, a formulated, potent synthetic toll-like receptor-4 (TLR-4) agonist, in the difficult to treat B16 melanoma model. Antigen-specific CD8 T-cells are induced ("primed") by a ZVex vector, and subsequent injection of G100 leads to pro-inflammatory changes in the tumor microenvironment (TME), which induces the trafficking of T-cells into the tumor (the "pull"). This inflamed TME and recruitment of ZVex-induced CD8 T cells eradicated large, established B16 tumors. Also importantly, treated mice rejected re-challenge with a tumor lacking the antigen used for immunization, indicating antigen spreading induced by the immunotherapeutic regimen. Immune Design is evaluating this immunotherapy approach in an ongoing Phase 1 trial in patients with soft tissue sarcoma who are receiving G100 and CMB305, its prime-boost approach that is being evaluated in multiple clinical trials as both a monotherapy and in combination with atezolizumab, Genentech's anti-PD-L1 antibody.

In addition, Immune Design will present separate data highlighting the ability of its ZVex vectors to induce potent, innate immune activation in human DCs. Company researchers studied the effect of human DC transduction with ZVex vectors by gene expression profiling. Human DCs transduced with ZVex vectors displayed statistically significant up-regulation of genes involved in antigen presentation and anti-viral defense pathways, highlighting that ZVex is sufficient to activate transduced DCs and facilitate antigen presentation to T cells.

The details for the poster presentations are as follows:

Large established B16 tumors in mice are eradicated by ZVex® (dendritic cell-targeting lentiviral vector) and G100 (TLR4 agonist) combination immunotherapy through increasing tumor-infiltrating effector T cells and inducing antigen spreading

Abstract #: 5673

Session Category: Clinical Research

Session Title: Innate Immunity to Generate Adaptive Immunity

Date and Time: Wednesday, April 5, 2017, 8:00 a.m. — 12:00 p.m.

Location: Convention Center, Halls A-C, Poster Section 28

Poster Board: 27

Authors: Tina C. Albershardt, Andrea J. Parsons, Jardin Leleux, Peter Berglund, Jan ter Meulen. Immune Design

The poster presentation will be made available at Immune Design's website on or after April 5, 2017.

ZVex® lentiviral vector strongly activates pro-inflammatory, antigen processing, and anti-viral defense response pathways in monocyte-derived dendritic cells

Abstract #: 5092

Session Category: Experimental and Molecular Therapeutics

Session Title: Gene- and Vector-based Therapy

Date and Time: Wednesday, April 5, 2017, 8 a.m. — 12 p.m.

Location: Convention Center, Halls A-C, Poster Section 3

Poster Board: 8

Authors: Anshika Bajaj, Lisa Y. Ngo, Peter Berglund, Jan ter Meulen. Immune Design

The poster presentation will be made available at Immune Design's website on or after April 5, 2017.

About ZVex

ZVex is Immune Design's discovery platform designed to activate and expand the immune system's natural ability to create tumor-specific cytotoxic T cells (CTLs) *in vivo*. ZVex uses a re-engineered virus to carry genetic information of a tumor antigen selectively to dendritic cells in the skin or lymph nodes. This ultimately results in the creation of CTLs designed to kill tumor cells bearing that same specific tumor antigen. ZVex is also designed to carry the genetic information for, and therefore potentially cause dendritic cells to express, multiple antigens and/or selected epitopes of interest (including neoantigens), as well as cytokines or other immunomodulatory molecules.

About G100

G100 is a product candidate from Immune Design's GLAAS® discovery platform. It contains a potent synthetic small molecule toll-like receptor-4 (TLR-4) agonist, Glucopyranosyl Lipid A (GLA), and is the lead product candidate in Immune Design's Antigen Agnostic approach. It leverages the activation of both innate and adaptive immunity, including Dendritic Cells, in the tumor microenvironment to create an immune response against the tumor's preexisting diverse set of antigens. A growing set of clinical and preclinical data have demonstrated the ability of G100 to activate tumor-infiltrating lymphocytes, macrophages and dendritic cells, and promote antigen-presentation and the recruitment of T cells to the tumor. The ensuing induction of local and systemic immune responses has been shown to result in local and abscopal (shrinking of tumors outside the scope of the localized treatment) tumor control in preclinical studies. G100 was evaluated in a Phase 1 study in Merkel cell carcinoma patients and produced a 50% overall response rate per protocol and a favorable safety profile. Currently, G100 is being evaluated as both a monotherapy with local radiation and in combination with Merck's anti-PD-1 agent, pembrolizumab, pursuant to a clinical collaboration with Merck, in a randomized Phase 1/2 trial in patients with follicular non-Hodgkin lymphoma.

About Immune Design

Immune Design is a clinical-stage immunotherapy company employing next-generation *in vivo* approaches to enable the body's immune system to fight disease. The company's technologies are engineered 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 and other chronic diseases. CMB305 and G100, the primary foci of Immune Design's ongoing immuno-oncology clinical programs, are products of its two synergistic discovery platforms, ZVex and GLAAS, the fundamental technologies of which were licensed from the California Institute of Technology and the Infectious Disease Research Institute (IDRI), respectively. Immune Design has offices in Seattle and South San Francisco. For more information, visit www.immunedesign.com.

Cautionary Note on Forward-Looking Statements

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Words such as "may," "will," "expect," "plan," "anticipate," "estimate," "intend" and similar expressions (as well as other words or expressions referencing future events, conditions or circumstances) are intended to identify forward-looking statements. These forward-looking statements are based on Immune Design's expectations and assumptions as of the date of this press release. Each of these forward-looking statements involves risks and uncertainties. Actual results may differ materially from these forward-looking statements. Forward-looking statements contained in this press release include, but are not limited to, statements about the timing of initiation, progress, scope and outcome of clinical trials for Immune Design's product candidates and the reporting of clinical data regarding Immune Design's product candidates. Many factors may cause differences between current expectations and actual results including unexpected safety or efficacy data observed during preclinical or clinical studies, clinical trial enrollment rates that are lower than expected, changes in expected or existing competition, changes in the regulatory environment and unexpected litigation or other disputes. Success in preclinical testing and early clinical trials does not ensure that later clinical trials will be successful. Other factors that may cause Immune Design's actual results to differ from those expressed or implied in the forward-looking statements in this press release are discussed in Immune Design's filings with the U.S. Securities and Exchange Commission, including the "Risk Factors" sections contained therein. Except as required by law, Immune Design assumes no obligation to update any forward-looking statements contained herein to reflect any change in expectations, even as new information becomes available.

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