December 5, 2016

Preclinical Data on IMGN632, a Novel CD123-Targeting ADC, Presented at ASH Annual Meeting

Data Demonstrate Activity in Acute Myeloid Leukemia Models While Sparing Normal Bone Marrow

WALTHAM, Mass.--(BUSINESS WIRE)-- ImmunoGen, Inc. (Nasdaq: IMGN), a leader in the expanding field of antibody-drug conjugates (ADCs) for the treatment of cancer, announced that preclinical data on IMGN632, a novel CD123-targeting ADC, were presented today at the 58th American Society of Hematology (ASH) Annual Meeting in San Diego, CA.

CD123 is an attractive target due to its elevated expression in acute myeloid leukemia (AML). IMGN632 uses ImmunoGen's new family of indolino-benzodiazepine cancer-killing agents, called IGNs. ImmunoGen designed IGNs to be highly potent and to alkylate DNA without crosslinking it. Specifically, IMGN632 uses the Company's DGN549 payload and incorporates novel linker and conjugation technology.

"We developed our DNA-alkylating IGN payloads to meet the dual challenges of achieving high potency against target cells, while having a tolerability profile that enables continued patient treatment," said Richard Gregory, Ph.D., Executive Vice President and Chief Scientific Officer of ImmunoGen. "These preclinical data demonstrate that IMGN632 has the potential for broad and potent activity in patients with AML and an improved tolerability profile."

The data presented at ASH (oral abstract #768) compared IMGN632, an ADC with an alkylating IGN, to a version of IMGN632 with a crosslinking payload. In vitro cytotoxic activity was compared in multiple AML cell lines. Both ADCs were found to be highly active against AML cells, including those with poor prognostic markers (FLT3-ITD, P53, MDR1), and were approximately 100-fold more active on AML patient samples than gemtuzumab ozogamicin.

Both ADCs exhibited similar efficacy in human AML xenograft models; however, the effects of the ADCs in toxicity studies were very different. While IMGN632, the alkylating ADC, was well tolerated at the dose tested, the crosslinking ADC showed persistent delayed toxicity (weight loss) at less than half the dose.

In addition, on normal bone marrow cells, IMGN632 was approximately 50-fold less toxic than the crosslinking ADC, while retaining high potency against AML cells.

These results show that IMGN632 has potent selective activity against AML cells with lower cytotoxicity to normal myeloid progenitor cells than an ADC designed to crosslink DNA activity. These data suggest IMGN632 has the potential to be a highly potent yet tolerable ADC for AML patients.

Supporting preclinical data were also presented at ASH in which IMGN632 showed compelling activity in AML xenograft models (abstract #2832).

The Company plans to submit an IND application and initiate clinical testing of IMGN632 in 2017.

Preclinical data were also presented at ASH on IMGN779, a potent CD33-targeting ADC using an IGN payload, (abstract #1645) from a combination study of IMGN779 with a PARP inhibitor (olaparib). The data demonstrated enhanced activity in several AML models including patient derived tumor cells and a disseminated AML xenograft model. IMGN779 is currently being evaluated in a Phase 1 study as a monotherapy in AML.

About Acute Myeloid Leukemia
Acute myeloid leukemia (AML) is a cancer of the bone marrow cells that produce white blood cells. It causes the marrow to increasingly generate abnormal immature white blood cells (blasts) that do not mature into effective infection-fighting cells. The blasts quickly fill the bone marrow, impacting the production of normal platelets and red blood cells. The resulting deficiencies in normal blood cells leave the patient vulnerable to infections, bleeding problems and anemia.

In 2016, it is estimated that nearly 20,000 new cases of AML will be diagnosed in the U.S. and more than 10,000 people will die from the disease.[1]

About ImmunoGen

ImmunoGen is a clinical-stage biotechnology company that develops targeted cancer therapeutics using its proprietary ADC technology. ImmunoGen's lead product candidate, mirvetuximab soravtansine, is being advanced to a Phase 3 trial for FRα-positive platinum-resistant ovarian cancer, and is in Phase 1b/2 testing in combination regimens for earlier-stage disease.

ImmunoGen's ADC technology is used in Roche's marketed product, Kadcyla®, in three other clinical-stage ImmunoGen product candidates, and in programs in development by partners Amgen, Bayer, Biotest, CytomX, Lilly, Novartis, Sanofi and Takeda. More information about the Company can be found at www.immunogen.com.

Kadcyla® is a registered trademark of Genentech, a member of the Roche Group.

[1]American Cancer Society (2016), *Leukemia - Acute Myeloid (Myelogenous) Detailed Guide.*

This press release includes forward-looking statements. For these statements, ImmunoGen claims the protection of the safe harbor for forward-looking statements provided by the Private Securities Litigation Reform Act of 1995. It should be noted that there are risks and uncertainties related to the development of novel anticancer products, including IMGN632 and IMGN779, including risks related to preclinical and clinical studies, their timings and results. A review of these risks can be found in ImmunoGen's Annual Report on Form 10-K for the fiscal year ended June 30, 2016 and other reports filed with the Securities and Exchange Commission.

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