News Release

SEPTEMBER 25, 2018

BLINCYTO® FOR DRIP INFUSION 35 µg APPROVED IN JAPAN FOR THE TREATMENT OF RELAPSED OR REFRACTORY B-CELL ACUTE LYMPHOBLASTIC LEUKEMIA

THE FIRST-AND-ONLY BISPECIFIC CD19-DIRECTED CD3 T CELL ENGAGER (BiTE®) IMMUNOTHERAPY

Amgen Astellas BioPharma K.K. (Headquarters, Tokyo; President and Representative Director: Steve Sugino, "Amgen Astellas") and Astellas Pharma Inc. (Headquarters, Tokyo; President and CEO: Kenji Yasukawa, Ph.D., "Astellas") today announced that Ministry of Health, Labour and Welfare has granted marketing approval for antineoplastic drug/bispecific antibody product BLINCYTO® Drip Infusion 35 µg (generic name: blinatumomab (Genetical Recombination)) for the treatment of relapsed or refractory B-cell acute lymphoblastic leukemia (ALL).

BLINCYTO is the first-and-only bispecific T cell engager (BiTE®) immunotherapy construct approved globally. It is also the first approved immunotherapy from Amgen's BiTE® platform, an innovative approach that helps the body's immune system target cancer cells.

"Today's approval of BLINCYTO marks a significant milestone that reinforces our commitment to addressing unmet medical needs of patients and physicians in Japan," said Steve Sugino, president and representative director of Amgen Astellas. "As our first oncology treatment approved in Japan, we are proud to provide a much needed innovative treatment option for adults and children with relapsed or refractory B-cell ALL, one of the most aggressive B-cell malignancies."

Hitoshi Kiyoi, M.D., Ph.D., professor of internal medicine, hematology and oncology, Nagoya University Graduate School of Medicine said, "The standard therapy for relapsed or refractory B-cell ALL has not been established in Japan and therefore different chemotherapy regimens have been selected, depending on the condition and background of each patient. BLINCYTO is a much needed and important new treatment option for patients with relapsed or refractory B-cell ALL, as demonstrated by the efficacy and survival benefit seen in the TOWER Study and it may enable effective bridging to allogenic hematopoietic stem cell transplant."

The approval is based on data from multiple global studies, including the Phase 3 TOWER study and Japan Phase 1b/2 Horai study. In the TOWER study, BLINCYTO demonstrated a superior improvement in median overall survival (OS) versus standard of care (SOC) chemotherapy. Median OS was 7.7 months (95 percent CI: 5.6, 9.6) for BLINCYTO versus 4.0 months (95 percent CI: 2.9, 5.3) for SOC (HR for death=0.71; *p*=0.012). Safety results among subjects who received BLINCYTO were comparable to those seen in the previous

Phase 2 studies of BLINCYTO in adult patients with Philadelphia chromosome-negative (Ph-) relapsed or refractory B-cell precursor ALL. In the TOWER study, major adverse reactions were pyrexia (39.0 percent), decrease in white blood cell count (14.6 percent), cytokine release syndrome (13.5 percent), febrile neutropenia (10.9 percent), headache (10.1 percent), elevated liver enzyme (10.1 percent) and decrease in platelet count (10.1 percent). In the Phase 1b/2 Horai study, BLINCYTO was administered to 35 Japanese adult and pediatric patients with relapsed or refractory B-cell precursor ALL. The safety results from the Horai study were comparable to those seen in the global studies, including TOWER. In the Horai study, major adverse reactions in adult patients were cytokine release syndrome (46.2 percent), pyrexia (46.2 percent), decrease in white blood cell count (38.5 percent) and decrease in platelet count (34.6 percent), and major adverse reactions in pediatric patients were elevated liver enzyme (66.7 percent), pyrexia (66.7 percent), cytokine release syndrome (55.6 percent) and abdominal pain (44.4 percent).

“As proof-of-concept for our unique bispecific T-cell engager technology, BLINCYTO has laid the groundwork for Amgen to deliver on our passion of addressing cancer by exploring numerous biologic pathways and therapeutic modalities,” said David M. Reese, M.D., executive vice president of Research and Development at Amgen. “This innovation is a good example of how we provide new options and hope to patients with serious illnesses like cancer. In bringing BLINCYTO to Japanese patients, we reinforce our commitment to deliver novel cancer therapies on behalf of patients worldwide.”

BLINCYTO is now approved in 57 countries, including the United States (U.S.), all member countries in the European Union (EU), and the European Economic Area, Canada and Australia.

About the TOWER Study

The TOWER study was a Phase 3, randomized, active-controlled, open-label study investigating the efficacy of BLINCYTO versus SOC chemotherapy in 405 adult patients with Ph- relapsed or refractory B-cell precursor ALL. The study enrolled a difficult-to-treat patient population which included patients with one or more relapses or refractory disease. In the BLINCYTO arm, this included 35 percent of patients that had relapsed post-allogenic hematopoietic stem cell transplant (alloHSCT) and excluded those with late first relapse (≥12 months after initial remission). Patients were randomized in a 2:1 ratio to receive BLINCYTO (n=271) or treatment with investigator choice of SOC chemotherapy (n=134). The determination of efficacy was based on OS. These results were published in *The New England Journal of Medicine*.[1]

About the Horai Study

The Horai study is a Phase 1b/2, single-arm, open-label study evaluating the safety and efficacy of BLINCYTO in Japanese adult and pediatric patients with relapsed or refractory B-cell precursor ALL. The primary endpoint for the Phase 1b portion was incidence of dose-limiting toxicities; the primary endpoint for the Phase 2 portion was complete remission or complete remission with partial hematologic recovery within 12 weeks of treatment with BLINCYTO. Secondary endpoints include duration of response, OS and relapse-free survival. An extension of the study is ongoing. For more information about this trial, please visit www.clinicaltrials.gov under trial identification number NCT02412306.

About ALL in Japan

ALL is a rapidly progressing cancer of the blood and bone marrow that occurs in both adults and children.[2,3] Japan is reported to have approximately 5,000 ALL patients, and it is estimated that of these, there are around 520 patients with relapsed or refractory ALL annually.[4-7] Adults with relapsed or refractory ALL typically have a very poor prognosis, with a median OS of three

to five months.[8] Prognosis for children with ALL who are refractory or experience a relapse is extremely poor, and post-relapse survival is only achieved in 40-50 percent of patients.[9-11]

About BiTE® Technology
BiTE® antibody constructs are a novel immuno-oncology technology that can be engineered to target any tumor antigen expressed by any type of cancer. The modified antibodies are designed to kill malignant cells using the patient's own immune system by bridging T cells to tumor cells. BiTE® antibody constructs help connect the T cells to the targeted cell, with the intent of causing T cells to inject toxins which trigger cancer cell death (apoptosis). Amgen is developing BiTE® antibody constructs to uniquely (or specifically) target numerous hematologic malignancies and solid tumors.

About BLINCYTO® (blinatumomab)
BLINCYTO is a bispecific CD19-directed CD3 T cell engager (BiTE®) immunotherapy that binds to CD19 expressed on the surface of cells of B-lineage origin and CD3 expressed on the surface of effector T cells. BLINCYTO was granted breakthrough therapy and priority review designations by the U.S. Food and Drug Administration (FDA) in 2014, and carries full approval in the U.S. for the treatment of relapsed or refractory B-cell precursor ALL in adults and children. In the U.S., BLINCYTO is also approved under accelerated approval for the treatment of adults and children with B-cell precursor ALL in first or second complete remission with minimal residual disease (MRD) greater than or equal to 0.1 percent.

BLINCYTO is approved in the EU for the treatment of Ph- relapsed or refractory B-cell precursor ALL in adults and children.

Important Japan Product Information

Indication:
Relapsed or refractory B-cell acute lymphoblastic leukemia

Precautions Related to Indications:
For the selection of patients for treatment with blinatumomab, be familiar with contents of “CLINICAL STUDIES” regarding prior therapies etc. of patients who enrolled in the clinical studies, and fully understand the efficacy and safety of BLINCYTO®.

Dosage and Administration:
In general, BLINCYTO® is administered as continuous intravenous infusion with the following dosing regimen for 28 days followed by a 14-day treatment-free interval. This constitutes one cycle and is repeated up to 5 cycles. After that, BLINCYTO® is administered with the following dosing regimen for 28 days followed by a 56-day treatment-free interval. This constitutes one cycle and is repeated up to 4 cycles. Of note, dose of BLINCYTO® can be reduced as appropriate depending on patient’s condition.

- Patients with a body weight of ≥45 kg: 9 μg/day on Days 1 to 7 of Cycle 1, then 28 μg/day.
- Patients with a body weight of < 45 kg: 5 $\mu g/m^2$ (body surface area [BSA])/day on Days 1 to 7 of Cycle 1, then 15 $\mu g/m^2$ (BSA)/day. The dose should not exceed the dose for patients with a body weight of ≥45 kg.

For more information, see the latest Japan Package Inserts.

About Amgen Astellas BioPharma
Amgen Astellas BioPharma K.K.（http://www.aabp.co.jp/jp/） is a Japanese company that began operations on October 1, 2013, to provide breakthrough-science-based medicines to help address unmet medical needs of patients in Japan. The company is a joint venture between Amgen, one of the world's leading independent biotechnology companies, and Astellas Pharma Inc., a leading Tokyo-based R&D oriented global pharmaceutical company. AABP has grown into an organization with over 400 employees and comprehensive functions to be fully operational as a marketing authorization holder in Japan. The joint venture will become a wholly-owned Amgen affiliate as soon as 2020.

About Astellas
Astellas Pharma Inc., based in Tokyo, Japan, is a company dedicated to improving the health of people around the world through the provision of innovative and reliable pharmaceutical products. For more information, please visit our website at https://www.astellas.com/en.

About Amgen
Amgen is committed to unlocking the potential of biology for patients suffering from serious illnesses by discovering, developing, manufacturing and delivering innovative human therapeutics. This approach begins by using tools like advanced human genetics to unravel the complexities of disease and understand the fundamentals of human biology.

Amgen focuses on areas of high unmet medical need and leverages its expertise to strive for solutions that improve health outcomes and dramatically improve people's lives. A biotechnology pioneer since 1980, Amgen has grown to be one of the world's leading independent biotechnology companies, has reached millions of patients around the world and is developing a pipeline of medicines with breakaway potential.

For more information, visit www.amgen.com and follow us on www.twitter.com/amgen.

About Amgen's Commitment to Oncology
Amgen Oncology is committed to helping patients take on some of the toughest cancers, such as those that have been resistant to drugs, those that progress rapidly through the body and those where limited treatment options exist. Amgen's supportive care treatments help patients combat certain side effects of strong chemotherapy, and our targeted medicines and immunotherapies focus on more than a dozen different malignancies, ranging from blood cancers to solid tumors. With decades of experience providing therapies for cancer patients, Amgen continues to grow its portfolio of innovative and biosimilar oncology medicines.

For more information, follow us on www.twitter.com/amgenoncology.

Cautionary Notes (Astellas)
In this news release, statements made with respect to current plans, estimates, strategies and beliefs and other statements that are not historical facts are forward-looking statements about the future performance of Astellas. These statements are based on management's current assumptions and beliefs in light of the information currently available to it and involve known and unknown risks and uncertainties. A number of factors could cause actual results to differ materially from those discussed in the forward-looking statements. Such factors include, but are not limited to: (i) changes in general economic conditions and in laws and regulations, relating to pharmaceutical markets, (ii) currency exchange rate fluctuations, (iii) delays in new product launches, (iv) the inability of Astellas to market existing and new products effectively, (v) the inability of Astellas to continue to effectively research and develop products accepted by customers in highly competitive markets, and (vi) infringements of Astellas' intellectual property rights by third parties. Information about pharmaceutical products (including products currently in development) which is included in this news release is not intended to constitute an advertisement or medical advice.

Forward-Looking Statements
This news release contains forward-looking statements that are based on the current expectations and beliefs of Amgen. All statements, other than statements of historical fact, are statements that could be deemed forward-looking statements, including estimates of revenues, operating margins, capital expenditures, cash, other financial metrics, expected legal, arbitration, political, regulatory or clinical results or practices, customer and prescriber patterns or practices, reimbursement activities and outcomes and other such estimates and results. Forward-looking statements involve significant risks and uncertainties, including those discussed below and more fully described in the Securities and Exchange Commission reports filed by Amgen, including our most recent annual report on Form 10-K and any subsequent periodic reports on Form 10-Q and current reports on Form 8-K. Unless otherwise noted, Amgen is providing this information as of the date of this news release and does not undertake any obligation to update any forward-looking statements contained in this document as a result of new information, future events or otherwise.

No forward-looking statement can be guaranteed and actual results may differ materially from those we project. Discovery or identification of new product candidates or development of new indications for existing products cannot be guaranteed and movement from concept to product is uncertain; consequently, there can be no guarantee that any particular product candidate or development of a new indication for an existing product will be successful and become a commercial product. Further, preclinical results do not guarantee safe and effective performance of product candidates in humans. The complexity of the human body cannot be perfectly, or sometimes, even adequately modeled by computer or cell culture systems or animal models. The length of time that it takes for us to complete clinical trials and obtain regulatory approval for product marketing has in the past varied and we expect similar variability in the future. Even when clinical trials are successful, regulatory authorities may question the sufficiency for approval of the trial endpoints we have selected. We develop product candidates internally and through licensing collaborations, partnerships and joint ventures. Product candidates that are derived from relationships may be subject to disputes between the parties or may prove to be not as effective or as safe as we may have believed at the time of entering into such relationship. Also, we or others could identify safety, side effects or manufacturing problems with our products, including our devices, after they are on the market.

Our results may be affected by our ability to successfully market both new and existing products domestically and internationally, clinical and regulatory developments involving current and future products, sales growth of recently launched products, competition from other products including biosimilars, difficulties or delays in manufacturing our products and global economic conditions. In addition, sales of our products are affected by pricing pressure, political and public scrutiny and reimbursement policies imposed by third-party payers, including governments, private insurance plans and managed care providers and may be affected by regulatory, clinical and guideline developments and domestic and international trends toward managed care and healthcare cost containment. Furthermore, our research, testing, pricing, marketing and other operations are subject to extensive regulation by domestic and foreign government regulatory authorities. Our business may be impacted by government investigations, litigation and product liability claims. In addition, our business may be impacted by the adoption of new tax legislation or exposure to additional tax liabilities. If we fail to meet the compliance obligations in the corporate integrity agreement between us and the U.S. government, we could become subject to significant sanctions. Further, while we routinely obtain patents for our products and technology, the protection offered by our patents and patent applications may be challenged, invalidated or circumvented by our competitors, or we may fail to prevail in present and future intellectual property litigation. We perform a substantial amount of our commercial manufacturing activities at a few key facilities, including in Puerto Rico, and also depend on third parties for a portion of our manufacturing activities, and limits on supply may constrain sales of certain of our current products and product candidate development. In addition, we compete with other companies with respect to many of our marketed products as well as for the discovery and development of new products. Further, some raw materials, medical devices and component parts for our products

are supplied by sole third-party suppliers. Certain of our distributors, customers and payers have substantial purchasing leverage in their dealings with us. The discovery of significant problems with a product similar to one of our products that implicate an entire class of products could have a material adverse effect on sales of the affected products and on our business and results of operations. Our efforts to acquire other companies or products and to integrate the operations of companies we have acquired may not be successful. A breakdown, cyberattack or information security breach could compromise the confidentiality, integrity and availability of our systems and our data. Our stock price is volatile and may be affected by a number of events. Our business performance could affect or limit the ability of our Board of Directors to declare a dividend or our ability to pay a dividend or repurchase our common stock. We may not be able to access the capital and credit markets on terms that are favorable to us, or at all.

###

CONTACT:

Amgen Astellas BioPharma K.K.
Corporate Affairs (TEL +81-3-5293-9694)

Astellas Pharma Inc.
Corporate Communications (TEL +81-3-3244-3201)

References

1. Kantarjian H, Stein A, Gökbuget N, Fielding AK, Schuh AC, Ribera JM, Wei A, Dombret H, Foà R, Bassan R, Arslan Ö. Blinatumomab versus chemotherapy for advanced acute lymphoblastic leukemia. New England Journal of Medicine. 2017 Mar 2;376(9):836-47.
2. Cancer Research UK. About acute lymphoblastic leukaemia (ALL). http://www.cancerresearchuk.org/about-cancer/acute-lymphoblastic-leukaemia-all/about. Accessed Aug. 23, 2018.
3. Mayo Clinic. Acute lymphocytic leukemia. https://www.mayoclinic.org/diseases-conditions/acute-lymphocytic-leukemia/symptoms-causes/syc-20369077. Accessed Aug. 23, 2018.
4. Patient Survey, Ministry of Health, Labour and Welfare (2014)
5. National Cancer Center Japan, Cancer Information Service. Basic Knowledge of Acute Lymphatic Leukemia/Lymphoblastic Lymphoma, http://ganjoho.jp/public/cancer/ALL/index.html (Accessed September 2018)
6. Sakura, T., et al. "High-dose methotrexate therapy significantly improved survival of adult acute lymphoblastic leukemia: a phase III study by JALSG." Leukemia 32.3 (2018): 626.
7. Koh K, Ogawa C, Okamoto Y, et al. Phase 1 study of clofarabine in pediatric patients with relapsed/refractory acute lymphoblastic leukemia in Japan. Int J Hematol. 2016;104: 245-255.
8. Advani AS. New immune strategies for the treatment of acute lymphoblastic leukemia: Antibodies and chimeric antigen receptors. Hematology Am Soc Hematol Educ Program. 2013;131-7
9. Reismuller B, et al. Outcome of Children and Adolescents With a Second or Third Relapse of Acute Lymphoblastic Leukemia (ALL): A Population-based Analysis of the Austrian ALL-BFM (Berlin-Frankfurt-Mu¨nster) Study Group. *J Pediatr Hematol Oncol*. 2013;35:e200–e204.
10. Hunger SP, et al. Improved survival for children and adolescents with acute lymphoblastic leukemia between 1990 and 2005: a report from the children's oncology group. *J Clin Oncol*. 2012;30(14):1663-9.
11. Nguyen K, et al. Factors influencing survival after relapse from acute lymphoblastic leukemia: a children's oncology group study. *Leukemia*. 2008;22(12):2142-50.