Autolus Therapeutics Presents Clinical Data Update at the 2024 Lymphoma, Leukemia & Myeloma Congress

October 16, 2024 at 9:00 AM EDT

- *Findings suggest the potential for obe-cel treatment without the need for consolidative SCT*
- *Obe-cel given as a sole treatment to patients with lower tumor burden at lymphodepletion was associated with better outcomes*

LONDON, Oct. 16, 2024 (GLOBE NEWSWIRE) -- Autolus Therapeutics plc (Nasdaq: AUTL), a clinical-stage biopharmaceutical company developing next-generation programmed T cell therapies, announces a poster presentation at the 2024 Lymphoma, Leukemia & Myeloma Congress being held October 16-19, 2024, in New York. These data suggest that adult patients with relapsed/refractory B-Cell Acute Lymphoblastic Leukemia (r/r B-ALL) achieve comparable outcomes irrespective of the timing of stem cell transplant (SCT) pre or post obe-cel, suggesting no further benefit of consolidative transplant based on this post-hoc analysis. Additionally, obe-cel given as a sole treatment to patients with lower Tumor Burden (TB) at Lymphodepletion (LD) was associated with better outcomes.

“Building on the tumor burden-guided dosing schedule presented at the recent Society of Hematologic Oncology annual meeting, this subset analysis from the FELIX study continues to differentiate obe-cel,” **said Dr. Christian Itin, Chief Executive Officer of Autolus.** “These data from the FELIX study suggest that Stem Cell Transplant post obe-cel treatment may not add additional benefit in terms of event free survival gain compared to obe-cel without transplant.”

Poster presentation:

Title: Outcomes of Adult Patients with Relapsed/Refractory B-Cell Acute Lymphoblastic Leukemia (R/R B-ALL) Treated with Obecabtagene autoleucel (obe-cel) with or without Consolidative Allogeneic Stem Cell Transplantation

Session date and time: October 16-19, 2024
Poster Number: P-008
Presenting Author: Jae H Park, MD, *Memorial Sloan Kettering Cancer Center, New York, NY, USA*

Summary:
Obe-cel is a CD19 autologous CAR T with a specialized design to improve persistence and minimize severe toxicity. In the FELIX Phase 1b/2 study, patients with relapsed refractory B-Cell Acute Lymphoblastic Leukemia (r/r B-ALL) treated with obe-cel showed high remission rates (78%) and a favorable safety profile. Studies of other available CAR T-cell therapies have shown that adults with r/r B-ALL may require consolidative stem cell transplantation (SCT) to improve clinical outcomes. Consolidative SCT requires significant healthcare resources and is associated with potentially severe toxicity and non-relapse mortality. CAR T-cell treatment strategies capable of minimizing requirement for consolidative treatments are needed. In the study, patients received bridging therapy as appropriate and underwent lymphodepletion (fludarabine, $4\times30mg/m^2$; cyclophosphamide, $2\times500mg/m^2$), followed by tumor burden-guided split dosing on Days 1 and 10 to a total target dose of 410×10^6 CAR T-cells. The decision to proceed to consolidative SCT post-obe-cel infusion was at the physician’s discretion. This post-hoc analysis was conducted to explore baseline characteristics that may explain SCT outcomes and identify risks.

At the data cut-off of February 7, 2024, overall, 99/127 (78%) obe-cel infused patients achieved CR/CRi. Eighteen patients underwent consolidative SCT, all in CR/CRi with undetectable measurable residual disease ($<10^{-4}$), and median time to transplant of 101 days; 81 patients did not undergo consolidative SCT. Those transplanted were generally younger (median 35.5 vs 55.0 years), more likely Hispanic/Latino (50% vs 20%), less likely to have Philadelphia chromosome-positive disease (11% vs 38%), had lower bone marrow (BM) blasts (median 32% vs 40%), and a higher rate of extramedullary disease (33% vs 16%) at screening. Median number of prior therapies in both groups was two, with a higher rate of blinatumomab exposure (67% vs 32%), and lower rate of prior SCT (33% vs 51%) in transplanted patients. At current follow-up (median 21.5 months), 49% (40/81) of responders without SCT were alive and in remission, while only 28% (5/18) of those who underwent SCT were alive and in remission. 44% (8/18) of those who underwent SCT relapsed and/or died, and 28% (5/18) died due to an adverse event. Consolidative SCT did not appear to improve EFS or OS. In patients who did not undergo SCT post obe-cel infusion, median event-free survival (EFS) (95% CI) was not reached for those with <5% (n=24) and with 5–75% (n=36) BM blasts at lymphodepletion, while it was 9 months (5.1, 22.1) for patients with >75% (n=21) BM blasts.

At current follow-up, 49% of responders who did not undergo consolidative SCT are in remission, compared with 28% of those who underwent SCT. Although limited by relatively small sample size, it appears those proceeding to SCT had a higher proportion of high-risk features. Further studies are needed to clarify optimal post-CAR T-cell management. Lower tumor burden at lymphodepletion was associated with improved EFS in patients who did not undergo SCT. These findings suggest potential for obe-cel treatment without consolidative SCT in a large subgroup of patients, and also suggest that reducing tumor burden prior to lymphodepletion is crucial for improved outcomes.

About Autolus Therapeutics plc
Autolus is a clinical-stage biopharmaceutical company developing next-generation, programmed T cell therapies for the treatment of cancer and autoimmune disease. Using a broad suite of proprietary and modular T cell programming technologies, Autolus is engineering precisely targeted, controlled and highly active T cell therapies that are designed to better recognize target cells, break down their defense mechanisms and eliminate these cells. Autolus has a pipeline of product candidates in development for the treatment of hematological malignancies, solid tumors and autoimmune diseases. For more information, please visit www.autolus.com

About obe-cel (AUTO1)
Obecabtagene autoleucel (obe-cel) is a B-lymphocyte antigen CD19 (CD19) chimeric antigen receptor (CAR) T cell investigational therapy designed to overcome the limitations in clinical activity and safety compared to current CD19 CAR T cell therapies. Obe-cel is designed with a fast target binding off-rate to minimize excessive activation of the programmed T cells. In clinical trials of obe-cel, this “fast off-rate” profile reduced toxicity and T cell exhaustion, resulting in improved persistence and leading to high levels of durable remissions in relapsed/refractory (r/r) Adult B-cell Acute Lymphoblastic Leukemia (B-ALL) patients. The results of the FELIX trial, a pivotal trial for adult B-ALL, have been submitted and accepted by the FDA with a PDUFA target action date of November 16, 2024. In the EU a regulatory submission to the EMA was accepted in April 2024, while in the UK, an MAA was submitted to MHRA in July 2024. In collaboration with Autolus’ academic partner, University College London, obe-cel is currently being evaluated in a Phase 1 clinical trial for B-cell non-Hodgkin lymphoma (B-NHL).

About obe-cel FELIX clinical trial
Autolus’ Phase 1b/2 clinical trial of obe-cel enrolled adult patients with r/r B-precursor ALL. The trial had a Phase 1b component prior to proceeding to the single arm, Phase 2 clinical trial. The primary endpoint was overall response rate, and the secondary endpoints included duration of response, MRD negative complete remission rate and safety. The trial enrolled over 100 patients across 30 of the leading academic and non-academic centers in the United States, United Kingdom and Europe. [NCT04404660]

Forward-Looking Statements
This press release contains forward-looking statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are statements that are not historical facts, and in some cases can be identified by terms such as "may," "will," "could," "expects," "plans," "anticipates," and "believes." These statements include, but are not limited to, statements regarding Autolus’ development and commercialization of its product candidates, timing of data announcements and regulatory submissions, its cash resources and the market opportunity for obe-cel. Any forward-looking statements are based on management's current views and assumptions and involve risks and uncertainties that could cause actual results, performance, or events to differ materially from those expressed or implied in such statements. These risks and uncertainties include, but are not limited to, the risks that Autolus’ preclinical or clinical programs do not advance or result in approved products on a timely or cost effective basis or at all; the results of early clinical trials are not always being predictive of future results; the cost, timing and results of clinical trials; that many product candidates do not become approved drugs on a timely or cost effective basis or at all; the ability to enroll patients in clinical trials; and possible safety and efficacy concerns. For a discussion of other risks and uncertainties, and other important factors, any of which could cause Autolus’ actual results to differ from those contained in the forward-looking statements, see the section titled "Risk Factors" in Autolus' Annual Report on Form 10-K filed with the Securities and Exchange Commission, or the SEC, on March 21, 2024 as well as discussions of potential risks, uncertainties, and other important factors in Autolus' subsequent filings with the Securities and Exchange Commission. All information in this press release is as of the date of the release, and Autolus undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future events, or otherwise, except as required by law. You should, therefore, not rely on these forward-looking statements as representing Autolus’ views as of any date subsequent to the date of this press release.

Contact:

Olivia Manser
+44 (0) 7780 471 568
o.manser@autolus.com

Julia Wilson
+44 (0) 7818 430877
j.wilson@autolus.com

Susan A. Noonan
S.A. Noonan Communications
+1-917-513-5303
susan@sanoonan.com