NEWS RELEASE

Artiva Biotherapeutics Presents Initial Data from First-in-Human Phase 1/2 Clinical Trial of AB-101 at the 2023 ASCO Annual Meeting

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- Initial activity observed in combination therapy of one billion cells per dose with rituximab; majority of responses were observed in patients who had previously failed autologous CAR-T cell therapy
- AB-101 was well tolerated at up to four billion cells per dose as a monotherapy; up to 16 doses of AB-101 at one billion cells per dose were successfully administered in combination with rituximab in an outpatient setting
- No observations of ICANS or GvHD; two patients (8%) had AEs of CRS, based on Grade 1 fevers which resolved within five to 24 hours without the usage of steroids and/or tocilizumab
- Enrollment at highest dose level of four billion cells per dose in combination with rituximab to begin in June

SAN DIEGO, May 25, 2023 — Artiva Biotherapeutics, Inc., a clinical stage company whose mission is to deliver highly effective, off-the-shelf, allogeneic natural killer (NK) cell-based therapies, announced today the presentation of initial data from the dose-escalation stage of its ongoing Phase 1/2 clinical trial of AB-101. AB-101 is a non-genetically modified, cord blood-derived, allogeneic, cryopreserved, ADCC-enhancing NK cell product candidate being investigated in combination with rituximab for the treatment of relapsed/refractory B-cell non-Hodgkin lymphoma (B-NHL). The presentation will take place on Monday, June 5, during the 2023 American Society of Clinical Oncology (ASCO) Annual Meeting in Chicago.

“We believe these data support the differentiated therapeutic and favorable safety profile of AB-101, an off-the-shelf NK cell product candidate administered in the outpatient setting, particularly in a post CAR-T patient

population that has limited therapeutic options," said Thorsten Graef, M.D., Chief Medical Officer of Artiva. "We report seven patients treated at the first dose level of one billion cells per dose in combination with rituximab, and we are encouraged by the initial clinical benefit we are seeing in patients with relapsed/refractory B-cell non-Hodgkin lymphoma who have failed multiple lines of prior treatment."

"Given the limited persistence of allogeneic NK cells, we believe our ability to deliver multiple doses over several months, much in line with the dosing of monoclonal antibodies, could help drive deep and durable responses. In this trial, we have patients who have received 16 doses of AB-101 over the course of several months because our highly scalable AlloNK® platform can manufacture thousands of cryopreserved doses of AB-101 from a single umbilical cord," added Fred Aslan, M.D., Chief Executive Officer of Artiva. "We believe AB-101 could be a broad ADCC-enhancer with the potential to be combined with multiple therapeutic antibodies or NK cell engagers across different indications."

Phase 1 Dose-Escalation Efficacy Data

The Phase 1/2 clinical trial in B-NHL is assessing AB-101 in an outpatient treatment regimen delivered in cycles, with each cycle consisting of three days of conditioning chemotherapy (250 mg/m^2 or 500 mg/m^2 of cyclophosphamide and 30 mg/m^2 of fludarabine) followed by four weekly doses of AB-101 at one billion or four billion cells per dose, each with IL-2 cytokine support. Monotherapy consists of one cycle only, while combination therapy allows for up to four cycles, each with two to three doses of rituximab (375 mg/m^2).

Patients had received a median of four prior lines of therapy, and 67% were refractory to the prior line of therapy. Approximately two-thirds have aggressive B-NHL. In the rituximab combination cohort, 89% had been treated with prior CAR-T therapy.

The Objective Response Rate (ORR) in seven efficacy evaluable patients treated with one billion cells per dose of AB-101 in combination with rituximab was 57.1% overall, including three Complete Responses (CRs) and one Partial Response (PR). Three of the responses were seen in patients who failed prior CAR-T therapy, and at the time of the data cut, three patients had ongoing responses and were progression free for 5+, 7+ and 9+ months.

Phase 1 Dose-Escalation Safety Data

At the time of the data cut, 15 patients in the monotherapy and nine patients in the combination cohorts were evaluable for assessment of safety. AB-101 was well tolerated at one and four billion cells per dose. Up to 16 doses of AB-101 at one billion cells per dose were successfully administered in combination with rituximab in an outpatient setting. Myelosuppression, consistent with standard lymphodepletion regimens, was the most common Grade ≥ 3 toxicity, but was manageable with standard of care. No prolonged cytopenias were observed. No

observations of ICANS / neurotoxicity or GvHD were noted even after 16 doses per patient. Two patients (8%) had Grade 1 reports of CRS, based on low-grade fevers which resolved within five to 24 hours without the usage of steroids and/or tocilizumab. The most common SAEs reported in the monotherapy cohort were febrile neutropenia (Grade 3+, n=2) and malignant neoplasm progression (Grade 3+, n=2; Grade 1-2, n=1). In the combination cohort, only one unrelated Grade 3 SAE of pyrexia was noted. There were no treatment-related AEs leading to discontinuation of AB-101.

Details of the poster presentation can be found **here**.

About AB-101

AB-101 is a non-genetically modified, cord blood-derived, allogeneic, cryopreserved, ADCC-enhancing NK cell therapy candidate for use in combination with monoclonal antibodies or innate-cell engagers in the out-patient setting. Artiva selects cord blood units with the high affinity variant of the receptor CD16 and a KIR-B haplotype for enhanced product activity. Using the Company's AlloNK® platform, Artiva can generate thousands of doses of pure, cryopreserved, infusion-ready NK cells from a single umbilical cord blood unit while retaining the high and consistent expression of CD16 and other tumor-engaging receptors, without the need for engineering. We believe this makes AB-101 an optimal adjunct therapy to targeted, ADCC-mechanistic biologics.

Artiva is conducting a Phase 1/2 multicenter clinical trial (ClinicalTrials.gov Identifier: NCT04673617) to assess the safety and clinical activity of AB-101 alone and in combination with the anti-CD20 monoclonal antibody, rituximab, in patients with relapsed or refractory B-cell-non-Hodgkin lymphoma (B-NHL) who have progressed beyond two or more prior lines of therapy including CAR-T therapy. This study is progressing at multiple clinical sites across the U.S., and AB-101 is administered weekly in the out-patient setting over one-month cycles and with up to four cycles to assess therapeutic efficacy and durability. Artiva is also collaborating with Affimed N.V. in developing a combination therapy, comprised of AB-101 and the Innate Cell Engager AFM13, for the treatment of patients with relapsed/refractory CD30-positive lymphomas.

About Artiva Biotherapeutics

Artiva's mission is to deliver highly effective, off-the-shelf, allogeneic NK cell-based therapies utilizing our Manufacturing-First approach, that are safe and accessible to cancer patients. Artiva's pipeline includes AB-101, an ADCC enhancer NK-cell therapy candidate for use in combination with monoclonal antibodies or innate-cell engagers. Artiva is currently advancing a Phase 1/2 clinical trial of AB-101 in combination with rituximab for the treatment of relapsed or refractory B-cell lymphomas and is also combining AB-101 with Affimed N.V.'s Innate Cell Engager AFM13 for the treatment of patients with relapsed/refractory CD30-positive lymphomas. Artiva's pipeline also includes AB-201, an anti-HER2 CAR-NK cell therapy candidate for the treatment of HER2-overexpressing

tumors, such as breast, gastric, and bladder cancers, and for which an IND has been allowed by FDA, and a pipeline of CAR-NK candidates targeting both solid and hematopoietic cancers. Artiva has entered into therapeutic NK cell collaborations with Merck Sharp & Dohme and with Affimed N.V. **Artiva's AlloNK® platform** incorporates cell expansion, activation, and engineering technology developed by Artiva's strategic partner, GC Cell Corporation, a member of the GC family of companies, a leading healthcare company in Korea. Artiva is headquartered in San Diego. For more information, visit **www.artivabio.com**.

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