AvenCell to Present New Data from Universal Switchable CAR T Cell Therapy Programs at 65th American Society of Hematology Annual Meeting and Exposition

Poster presentation of updated safety and efficacy data for AVC-101 in relapsed/refractory acute myeloid leukemia, providing clinical proof of concept with best-in-class efficacy signal in late-line AML patients, demonstrating rapid CAR T cell on-off control mechanism of Universal Switchable CAR platform, and impressive durability of responses

Poster presentation of preclinical functional characterization and optimization of Switchable Allogeneic CAR T Cells for Targeting CD19 and CD20 in B Cell Malignancies

WATERTOWN, MA.-- Dec. 8, 2023 -- **AvenCell Therapeutics, Inc.**, a leading clinical-stage cell therapy company focused on advancing both autologous and allogeneic switchable CAR-T cell therapies, today announced that expanded clinical safety and efficacy data from its leading Universal Switchable CAR T Cell ("UniCAR") Therapy program and preclinical data from its Switchable Allogeneic CAR platform will be revealed in poster presentations at the 65th American Society of Hematology (ASH) Annual Meeting and Exposition on December 09-12, 2023, in San Diego, California.

"We are excited to showcase the power of our Universal Switchable CAR platform at ASH, which has the potential to address the longstanding efficacy and safety challenges that have limited a wider application of cellular immunotherapies to date," said Andrew Schiermeier, Ph.D., Chief Executive Officer, AvenCell Therapeutics. "The clinical data presented by Dr. Elisa Sala demonstrates the promise of the platform to successfully provide a clear therapeutic window for CD123 in R/R AML – a challenge that has notoriously been elusive in many past attempts. The preclinical data presented by Dr. Johannes Spehr additionally shows the promise of our Switchable Allogeneic CAR platform in other indications, including B cell lymphomas, where relapse and access to existing CAR-T products are still problematic."

Poster Presentation [#3465]: Updated Results from a Phase I Dose Escalation Study of the Rapidly-Switchable Universal CAR-T Therapy UniCAR-T-CD123 in Relapsed/Refractory AML

Presenting Author: Dr. Elisa Sala
Date/Time: Sunday, December 10, 2023, 06:00 PM – 8:00 PM PST
Location: Halls G-H (San Diego Convention Center)

This presentation will include updated safety and efficacy data from the first-in-human phase 1 dose escalation study of AVC-101 in patients with R/R AML, designed to assess safety and tolerability and identify an MTD. Secondary and exploratory objectives include efficacy, biological activity and PK.

The abstract reports results as of July 7, 2023 for 15 heavily pre-treated R/R AML patients with a median of three prior lines of therapies (min-max: 1-7 lines), and four patients in CR that were MRD positive for whom change in MRD disease load was measured. Updated data includes durable responses in patients lasting more than six months and will be included in the Poster during the ASH Conference.

Poster Presentation [#2059]: Functional Characterization and Optimization of Switchable Allogeneic Chimeric Antigen Receptor T Cells for Targeting CD19 and CD20 in B Cell Malignancies
Presenting Author: Dr. Johannes Spehr
Date/Time: Saturday, December 09, 2023, 05:30 PM – 7:30 PM PST
Location: Halls G-H (San Diego Convention Center)

This presentation will include data from preclinical optimization and characterization of Switchable Allogeneic CAR T cells for the treatment of B cell malignancies by simultaneous targeting CD19 and CD20 to prevent antigen escape. The program presents an advancement of AvenCell's proprietary CAR platform in combination with the use of its allogeneic T cells, which are gene-engineered in three loci to provide a safe and persistent cell product.

The abstract reports key results of in vitro and in vivo studies revealing the profound efficacy of Switchable Allogeneic CAR T cells against advanced tumors and tumors expressing either both or only one of the target antigens.

Abstracts outlining AvenCell's accepted data at ASH are available on the ASH conference website.

About AVC-101

AVC-101 is an investigational CD123-directed cell therapy targeting acute myeloid leukemia (AML), that utilizes AvenCell's proprietary Universal Switchable platform, a regulatable CAR T cell technology that can turn CAR T cells "OFF" and "ON" by means of a separately infused Targeting Module. With AVC-101, AvenCell is aiming to create a solution to address the heterogeneity and aggressive nature of acute myeloid leukemia. CD123 is a target in acute myeloid leukemia, but its on-target off-tumor toxicity makes a conventional CD123-directed CAR very challenging.

AvenCell's proprietary Universal Switchable Platform is part of a new paradigm in cell therapy through one-time engraftment of Universal CAR T Cells, which can then be controlled in vivo with the separate administration of Targeting Modules that direct the Universal CAR T cells to cancer cells for activation and killing. The platform's ability to control CAR T activity after infusion via repeatable, titratable Targeting Module infusion provides extensive flexibility to address such issues as avoiding T cell exhaustion and reacting quickly to any potential adverse events.

AVC-101 is not approved for any indication in any geography.

About AvenCell Therapeutics

AvenCell derives its name from the French word "avenir" to reflect the aim to be the FUTURE of cell therapy. AvenCell is building a truly transformative cell therapy company that targets difficult-to-treat cancers, with its lead programs focusing on acute myeloid leukemia (AML) and prostate cancer, and additional programs targeting other hematological malignancies and solid tumors. AvenCell was formed with the goal to create truly allogeneic cells that persist as long or longer than autologous therapies and develop a universal and switchable construct that allows complete control and target redirection of T cells after they are infused into a patient. Integration of these two platforms allows for complete separation of the manufacturing of cells from ultimate patient and cancer target, thus providing significant scalability potential at orders of magnitude more efficient than current approaches.

AvenCell Therapeutics, Inc. was launched in 2021 by Blackstone Life Sciences, Cellex Cell Professionals, and Intellia Therapeutics, and incorporated the clinical-stage

biopharmaceutical company GEMoaB GmbH. AvenCell is headquartered in Watertown, Massachusetts with additional R&D and manufacturing operations in Dresden, Germany.

For more information, visit www.avencell.com.

Follow AvenCell on social media: LinkedIn.

Forward-Looking Statements

This press release contains "forward-looking statements" of AvenCell Therapeutics, Inc. ("AvenCell" or the "Company") within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements include, but are not limited to, express or implied statements regarding AvenCell's beliefs and expectations regarding: the safety, efficacy, success and advancement of its clinical program for AVC-201 for the treatment of CD123 positive hematological malignancies pursuant to its clinical trial applications, including the initiation, enrollment, dosing and completion of clinical trials, such as planned enrollment for the Phase 1 portion of the study for AVC-201.

Forward-looking statements involve substantial risks and uncertainties that could cause actual results to differ materially from those expressed or implied by such statements. Risks and uncertainties include, among other things, the uncertainties inherent in research and development, including AvenCell's ability to initiate, progress or complete pre-clinical or clinical studies within currently anticipated timelines or at all, and the possibility of unfavorable results from ongoing or additional pre-clinical or clinical studies; uncertainties relating to regulatory applications and related filing and approval timelines; risks related to AvenCell's relationships and collaborations with third parties; risks related to the maintenance and protection of AvenCell's intellectual property; risks related to the potential successful development and commercialization of AvenCell's product candidates; and risks associated with AvenCell's understanding of cell therapy and its application to the treatment of cancers.

All statements other than statements of historical fact are statements that could be deemed forward-looking statements. The reader is cautioned that any such forward-looking statements are not guarantees of future performance and involve risks and uncertainties and is cautioned not to place undue reliance on these forward-looking statements. All forward-looking statements are based on information currently

available to AvenCell, and AvenCell assumes no obligation and disclaims any intent to update any such forward-looking statements.

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