



Senti Bio and BlueRock Therapeutics Enter Collaboration to Develop Gene Circuit-Engineered Cell Therapies for Regenerative Medicine

- Collaboration combines BlueRock's leading induced pluripotent stem cell (iPSC) platform technology and genome biology expertise with Senti Bio's proprietary gene circuit technology platform, including Smart Sensors and Regulator Dials -

CAMBRIDGE, Mass. and SOUTH SAN FRANCISCO, Calif., May 26, 2021—BlueRock Therapeutics LP, a leading engineered cell therapy company and a wholly-owned and independently operated subsidiary of Bayer AG, and Senti Biosciences, Inc. (Senti Bio), a leading gene circuit company, today announced a collaboration and option agreement to apply Senti Bio's gene circuit technology to the development of BlueRock's next-generation engineered cell therapies for a potentially broad array of therapeutic areas, including but not limited to neurology, cardiology and immunology within the field of regenerative medicine.

Under the terms of the agreement, Senti Bio will be responsible for designing, building and testing cell state- and disease- specific Smart Sensors and Regulator Dials for use in BlueRock Therapeutics' regenerative medicine product candidates. BlueRock Therapeutics will receive the option to license gene circuits emerging from the collaboration for cell therapy products in specified indications. Upon option exercise, BlueRock Therapeutics will be responsible for conducting preclinical, clinical and commercialization activities for any cell therapy candidates that incorporate Senti Bio's licensed gene circuits.

"There is tremendous opportunity at the intersection of cell, gene and systems biology. With control of all three axes, we believe we can further engineer the cell's inherent potential to integrate multiple physiologic inputs to produce powerful therapeutic benefit *in vivo*," said Emile Nuwaysir, PhD, President and Chief Executive Officer of BlueRock. "We are excited to bring together Senti Bio's expertise in gene circuits with BlueRock's deep understanding of engineered cells to enhance the efficacy, precision, and control of BlueRock's future cell therapy products."

Through this collaboration, Senti Bio will seek to bolster BlueRock's *cell+gene* platform by developing gene circuits to precisely control cell differentiation and therapeutic payload expression, in an effort to accelerate BlueRock's efforts to create next-generation cellular therapies, and further consolidate Bayer's strategy in cell and gene therapies. It is a step forward in BlueRock and Bayer's ambition to be at the forefront of innovation



in cell and gene therapies, pioneering technology to offer the safest, highest quality and most efficient options for patients.

Tim Lu, MD, PhD, Chief Executive Officer of Senti Bio commented, “We are engineering gene circuits to reprogram cells with biological logic to sense inputs, compute decisions and respond to their cellular environments. By combining BlueRock’s iPSC platform with our sophisticated gene circuits, we believe that we have the potential to create the next generation of programmable regenerative medicines together.”

Senti Bio is developing proprietary engineered gene circuits designed to reprogram cells to sense inputs, compute decisions and respond with outputs. The company’s four core categories of gene circuits in development include Smart Sensors, Logic Gating, Regulator Dials and Multi-Arming, each of which is designed to confer greater efficacy, precision and control to cell and gene therapies. These gene circuits are driving Senti Bio’s oncology-focused therapeutics pipeline and enable potential collaborations involving other cell and gene therapies.

BlueRock Therapeutics develops engineered cell therapies using a proprietary *cell+gene* platform. Genetically engineered induced pluripotent stem cells (iPSCs) provide a highly consistent and unlimited source for allogeneic cell therapies. These cells can be differentiated into a wide variety of therapeutic cell types to potentially treat diseases across neurology, cardiology and immunology indications, as well as others. BlueRock Therapeutics plans to apply Senti Bio’s Smart Sensor and Regulator Dial gene circuit technology platform towards the goal of developing highly sophisticated engineered cell therapies.

About Smart Sensors and Regulator Dials

Smart Sensors are gene circuits designed to precisely detect cell type or disease environments, and thus distinguish between the “disease state” and “healthy state.” For example, Smart Sensors can be engineered to detect whether certain conditions, or disease biomarkers, are present before countering with a specific therapeutic response. These Smart Sensors include synthetic promoters, which are compact DNA sequences engineered to more precisely regulate the expression of genes. Conventional medicines are generally unable to dynamically change their behavior in response to cell- or disease-specific conditions.

Regulator Dials are gene circuits designed to enable the precise tuning of therapeutic activity from a cell or gene therapy product. For example, Regulator Dials can be engineered to regulate therapeutic payload expression in response to varying concentrations of FDA-approved drugs. Regulator Dials are expected to



enable the exogenous regulation of next-generation cell and gene therapies even after they have been delivered *in vivo*. Most existing cell and gene therapies cannot be modulated once they have been delivered into patients.

About Senti Bio

Our mission is to create a new generation of smarter medicines that outmaneuver complex diseases in ways previously inconceivable. To accomplish this mission, we are building a synthetic biology platform that we believe may enable us to program next-generation cell and gene therapies with what we refer to as “gene circuits.” These gene circuits, which are created from novel and proprietary combinations of DNA sequences, are designed to reprogram cells with biological logic to sense inputs, compute decisions and respond to their cellular environments. We aim to design gene circuits to improve the “intelligence” of cell and gene therapies in order to enhance their therapeutic effectiveness against a broad range of diseases that conventional medicines do not readily address. For more information, please visit the Senti Bio website at <https://www.sentibio.com>.

About BlueRock Therapeutics

BlueRock Therapeutics is an engineered cell therapy company with a mission to develop regenerative medicines for intractable diseases. The company’s *cell+gene* platform enables the creation, manufacture, and delivery of authentic cell therapies with engineered functionality by simultaneously harnessing pluripotent cell biology and genome editing. This enables an approach where, in theory, any cell in the body can be manufactured and any gene in the genome can be engineered for therapeutic purposes. The platform is broadly applicable, but the company is focused today in neurology, cardiology, and immunology. In August 2019, the company was acquired by Bayer Pharmaceuticals, for an enterprise value of \$1B in upfront and milestone payments. For BlueRock this marks the next step in the journey to prove degenerative disease is reversible, and to bring our revolutionary new medicines to the patients who desperately need them. For more information, visit bluerocktx.com.

About Bayer

Bayer is a global enterprise with core competencies in the life science fields of health care and nutrition. Its products and services are designed to help people and planet thrive by supporting efforts to master the major challenges presented by a growing and aging global population. Bayer is committed to drive sustainable development and generate a positive impact with its businesses. At the same time, the Group



aims to increase its earning power and create value through innovation and growth. The Bayer brand stands for trust, reliability and quality throughout the world. In fiscal 2020, the Group employed around 100,000 people and had sales of 41.4 billion euros. R&D expenses before special items amounted to 4.9 billion euros. For more information, go to www.bayer.com.

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