Bayer and CRISPR Therapeutics AG join Forces to Discover, Develop and Commercialize Potential Cures for Serious Genetic Diseases

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- The novel joint venture focuses on fundamental breakthrough treatments through first systemic application of promising CRISPR-Cas9 gene editing technology
- Bayer is investing USD 335 million in a long-term alliance with CRISPR Therapeutics through new Bayer LifeScience Center unit
- The joint venture will combine two leading knowledge areas: CRISPR-Cas9 from CRISPR Therapeutics as well as protein engineering and disease know-how by Bayer

Leverkusen, Germany and Basel, Switzerland, December 21, 2015 – Bayer and CRISPR Therapeutics have entered into an agreement to create a joint venture (JV) to discover, develop and commercialize new breakthrough therapeutics to cure blood disorders, blindness, and congenital heart disease. CRISPR Therapeutics will contribute its proprietary CRISPR-Cas9 gene-editing technology and intellectual property, while Bayer will make available its protein engineering expertise and relevant disease know-how. It is the first long-term strategic partnership of its kind to make a substantial investment in the development of target delivery systems in an effort to bring systemic *in vivo* CRISPR-Cas9 gene editing technology applications to patients.

The JV is the first investment by the newly established Bayer LifeScience Center (BLSC), which operates as a novel strategic innovation unit in Bayer directly reporting to Bayer's Board of Management. The BLSC has the mission to uncover, encourage and unlock fundamental scientific and medical breakthroughs more rapidly by enabling innovative partnerships with entrepreneurial best-in-class biotechnology companies like CRISPR Therapeutics.

"The new Bayer LifeScience Center and the partnership with CRISPR Therapeutics are representative of Bayer's more than 150-year tradition of developing scientific innovations that dramatically improve lives," said Dr. Marijn Dekkers, Chief Executive Officer of Bayer AG. "Bayer and CRISPR Therapeutics are philosophically and financially aligned in our mission to develop game-changing or possibly curative treatments for serious human genetic diseases".

Bayer will provide a minimum of USD 300 million in R&D investments to the JV over the next five years. In addition, Bayer will acquire a minority stake in CRISPR Therapeutics for USD 35 million in cash. The JV will be led by Dr. Axel Bouchon, Head of the BLSC, on an interim basis as CEO, while Dr. Rodger Novak, CEO and co-founder of CRISPR Therapeutics, will serve as the interim chairman of the newly formed JV Board.

"The JV and the Bayer investment are game-changing for our business," said Rodger Novak. "We keep a 50 percent ownership in the high-risk, high-reward areas of blood disorders, blindness, and congenital heart diseases, but also retain full access to target delivery technologies and IP development by the JV, which we intend to fully leverage in support of CRISPR Therapeutics' wholly owned core strategic disease areas".

Through the JV, Bayer may secure exclusive rights to use CRISPR Therapeutics' and the JV's proprietary CRISPR-Cas9 technology and intellectual property in the three targeted disease areas, including blood disorders, blindness and congenital heart diseases. CRISPR Therapeutics may gain exclusive access to Bayer's protein engineering know how for use in Crispr products as well as Bayer's extensive expertise and knowledge in the three targeted disease areas. Newly created know-how from the collaboration around the CRISPR-Cas9 system beyond the three disease areas, will be exclusively made available to CRISPR Therapeutics for human-use, and to Bayer for non-human use, such as agricultural applications. All technology development and future IP developed by the JV will also be exclusively available to the parent companies Bayer and CRISPR Therapeutics.

Moreover, Axel Bouchon said: "We are very impressed by the scientific team of CRISPR Therapeutics as they have built the most promising gene-editing technology on the market. This is perfectly suited to fully leverage Bayer´s expertise in protein engineering and knowledge in the targeted disease areas of this JV. It´s really exciting to combine the forces of our leading technologies, scientific excellence and intellectual property. It promises to have a major impact on patients with serious genetic diseases and also for our businesses".

The soon to be named JV will be based in London, UK, with operations in Cambridge, Mass..

Closing of the transaction is subject to customary conditions, including merger control clearance in the US, and expected to occur in the first quarter of 2016.

Since its discovery in 2012, data on the CRISPR-Cas9 gene editing system have been published in more than 1100 scientific and medical journals supporting its potential applicability to cure serious human diseases that cannot be addressed with existing technologies. The Science Magazine just named the CRISPR gene-editing technology "Breakthrough of the Year 2015".

About Gene Editing with CRISPR-Cas9

"CRISPR" refers to Clustered Regularly Interspaced Short Palindromic Repeats that occur in the genome of certain bacteria, from which the system was discovered. Cas9 is a CRISPR-associated endonuclease (an enzyme) known to act as the "molecular scissors" that cut and edit, or correct, disease-associated DNA in a cell. A guide RNA directs the Cas9 molecular scissors to the exact site of the disease-associated mutation. Once the molecular scissors make a cut in the DNA, additional cellular mechanisms and exogenously added DNA will use the cell's own machinery and other

elements to specifically ‘repair' the DNA. This technology may offer the ability to directly modify or correct the underlying disease-associated changes in the human genome for the potential treatment of a large number of both rare and common diseases.

Emmanuelle Charpentier, Ph.D., co-founder of CRISPR Therapeutics, co-invented the CRISPR-Cas9 technology and is the recipient of multiple prestigious awards in recognition of the contribution that the CRISPR-Cas9 technology may have on global health.

About The Bayer LifeScience Center

The BLSC is a new R&D unit of Bayer that focuses entirely on the development of ultimate breakthroughs across species by creating a novel platform that allows technology combination and know-how amplification. Initially, the BLSC will tackle fundamental challenges through a network of external collaborative partnerships with the focus on promising new technologies to cure diseases and to take responsibility for the growing world population.

About CRISPR Therapeutics

CRISPR Therapeutics is focused on the discovery and development of potential cures for serious diseases using its proprietary CRISPR-Cas9 gene editing technology. The company's multi-disciplinary team of world-renowned academics, drug developers and clinicians are working on its own proprietary programs and also partnering with some of the world's leading pharmaceutical and biotechnology companies to translate this technology into breakthrough human therapeutics. The foundational CRISPR-Cas9 patent estate for human therapeutic use was licensed from scientific founder Dr. Emmanuelle Charpentier. The company is headquartered in Basel, Switzerland and Cambridge, MA, with corporate offices in London. For more information about the company, go to www.crisprtx.com

Bayer: Science For A Better Life

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