



Arcturus Therapeutics Collaborates with Vingroup to Establish Manufacturing Facility in Vietnam for Arcturus' Investigational mRNA Vaccines for COVID-19

August 2, 2021

Arcturus will receive \$40 million upfront payment and potential royalties based on vaccines produced

SAN DIEGO--(BUSINESS WIRE)--Aug. 2, 2021-- Arcturus Therapeutics Holdings Inc. (the "Company", "Arcturus", Nasdaq: ARCT), a leading clinical-stage messenger RNA medicines company focused on the development of infectious disease vaccines and significant opportunities within liver and respiratory rare diseases, announced today an agreement with Vinbiocare Biotechnology Joint Stock Company ("Vinbiocare"), a member of Vingroup Joint Stock Company, regarding a collaboration to establish a manufacturing facility in Vietnam for the manufacture of Arcturus' investigational COVID-19 vaccines, for sale and use within Vietnam.

Under the terms of the arrangement, Vinbiocare will, with consultation from Arcturus, build out a manufacturing facility in Vietnam, and Arcturus will provide to Vinbiocare access to proprietary technologies and processes for the manufacture of Arcturus' investigational COVID-19 vaccines. Arcturus will provide Vinbiocare with an exclusive license to manufacture the vaccines in Vietnam at the facility solely for distribution in Vietnam. The license and technology transfer applies toward drug product manufacturing but not toward mRNA drug substance manufacturing. Technology transfer is underway.

Vinbiocare will make an upfront payment of \$40 million and be responsible for costs associated with the technology transfer. Vinbiocare will also pay for mRNA drug substance supplied by Arcturus and royalties on vaccines produced at the Facility.

Arcturus investigational COVID-19 vaccines utilize Arcturus' self-transcribing and replicating (STARR™) mRNA technology, and the STARR™ mRNA is delivered with Arcturus's lipid-mediated delivery system called LUNAR® delivery system.

"We are very pleased to announce this relationship with Vingroup, and this contract with its subsidiary Vinbiocare, to help establish a manufacturing facility for our COVID-19 vaccine candidate, targeting a capacity of up to 200 million doses per year. We are looking forward to having a meaningful role in providing effective and safe COVID-19 vaccine to Vietnam as well as other countries around the world," said Joseph Payne, President and CEO of Arcturus.

About Arcturus Therapeutics

Founded in 2013 and based in San Diego, California, Arcturus Therapeutics Holdings Inc. (Nasdaq: ARCT) is a clinical-stage mRNA medicines and vaccines company with enabling technologies: (i) LUNAR® lipid-mediated delivery, (ii) STARR™ mRNA Technology and (iii) mRNA drug substance along with drug product manufacturing expertise. Arcturus' diverse pipeline of RNA therapeutic and vaccine candidates includes mRNA vaccine programs for SARS-CoV-2 (COVID-19) and Influenza, and other programs to potentially treat Ornithine Transcarbamylase (OTC) Deficiency, and Cystic Fibrosis along with partnered programs including Glycogen Storage Disease Type 3, Hepatitis B Virus, and non-alcoholic steatohepatitis (NASH). Arcturus' versatile RNA therapeutics platforms can be applied toward multiple types of nucleic acid medicines including messenger RNA, small interfering RNA, replicon RNA, antisense RNA, microRNA, DNA, and gene editing therapeutics. Arcturus' technologies are covered by its extensive patent portfolio (222 patents and patent applications, issued in the U.S., Europe, Japan, China and other countries). Arcturus' commitment to the development of novel RNA therapeutics has led to collaborations with Janssen Pharmaceuticals, Inc., part of the Janssen Pharmaceutical Companies of Johnson & Johnson, Ultragenyx Pharmaceutical, Inc., Takeda Pharmaceutical Company Limited, CureVac AG, Synthetic Genomics Inc., Duke-NUS Medical School, and the Cystic Fibrosis Foundation. For more information visit www.ArcturusRx.com. In addition, please connect with us on [Twitter](#) and [LinkedIn](#).

About Vingroup

As the largest private industry conglomerate in Vietnam and one of the largest in Asia, Vingroup is currently doing business in three core sectors namely technology, industry and services. Vingroup has ceaselessly innovated and developed with the aim of building an ecosystem of premium products and services that meet international standards, contributing to the improvement of the Vietnamese people's life quality and the enhancement of Vietnamese brand image in the international market. In any sector, Vingroup has always played the role of a pioneer that leads the change. For more details, please log on to <https://www.vingroup.net/en>.

Forward Looking Statements

This press release contains forward-looking statements that involve substantial risks and uncertainties for purposes of the safe harbor provided by the Private Securities Litigation Reform Act of 1995. Any statements, other than statements of historical fact included in this press release, are forward-looking statements, including those regarding strategy, future operations, collaborations, the likelihood of success (including safety and efficacy) of the Company's pipeline, the Company's efforts to develop a vaccine against COVID-19 and therapeutic potential thereof based on the Company's mRNA therapeutics, the initiation, completion or anticipated timeframes for the initiation and build-out of the manufacturing facility, the initiation, completion or anticipated timeframes for the planned technology transfer of manufacturing processes to Vinbiocare, the likelihood that the Company or its partners will obtain clearance from regulatory authorities to proceed with planned clinical trials, the likelihood that the Company or its partners will obtain regulatory approval of the Company's product candidates, the Company's manufacturing methods and technologies (including lyophilization and fill finish), the likelihood that a patent will issue from any patent application, its current cash position and expected cash burn and the impact of general

business and economic conditions. Actual results and performance could differ materially from those projected in any forward-looking statements as a result of many factors including, without limitation, the ability to enroll subjects in clinical trials as a result of the COVID-19 pandemic, the impact of commercialization of third-party COVID-19 vaccines on the design, and ability to conduct, clinical trials, the availability of manufacturing capacity and raw materials, unexpected clinical results, government regulations impacting the regulatory environment or intellectual property landscape, and general market conditions that may prevent such achievements or performance. Arcturus may not actually achieve the plans, carry out the intentions or meet the expectations or projections disclosed in any forward-looking statements such as the foregoing and you should not place undue reliance on such forward-looking statements. Such statements are based on management's current expectations and involve risks and uncertainties, including those discussed under the heading "Risk Factors" in Arcturus' Annual Report on Form 10-K for the fiscal year ended December 31, 2020, and in subsequent filings with, or submissions to, the SEC. Except as otherwise required by law, Arcturus disclaims any intention or obligation to update or revise any forward-looking statements, which speak only as of the date they were made, whether as a result of new information, future events or circumstances or otherwise.

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Source: Arcturus Therapeutics Holdings Inc.