



Agenus Awarded Grant to Enable QS-21 Innovations

January 3, 2019

- **Bill & Melinda Gates Foundation invests ~\$1M to develop novel technology for QS-21**
- **Grant to develop an alternative, novel plant cell-culture based method for QS-21 production**

LEXINGTON, Mass., Jan. 3, 2019 /PRNewswire/ -- Agenus Inc. (NASDAQ: AGEN), an immuno-oncology (I-O) company with a pipeline of immune modulating antibodies, cancer vaccines, adjuvants and adoptive cell therapies¹, announced today that the Bill & Melinda Gates Foundation awarded it a grant of ~\$1M to develop an alternative, plant cell culture-based manufacturing process to ensure the continuous future supply of Agenus' proprietary QS-21 Stimulon[®] adjuvant, a key component of multiple vaccines targeting infectious and endemic diseases.



Agenus' QS-21 Stimulon[®] is a proprietary adjuvant, currently incorporated as part of Glaxo Smith Kline's (GSK's) highly efficacious Shingrix[®] vaccine. Additionally, Agenus' QS-21 Stimulon[®] is used in GSK's Mosquirix vaccine and numerous other clinical-stage vaccines, including Agenus' own cancer vaccines. Given the criticality of QS-21 in making vaccines efficacious, Agenus plans to develop a cell-culture based, environment friendly manufacturing technique as an alternative future supply. QS-21 is currently extracted from Chilean soap bark trees, exclusively sourced from a localized area in Chile.

"We are delighted to be working in partnership with the Bill & Melinda Gates Foundation in our efforts to revolutionize the way we produce QS-21," said Dr. Garo Armen, Chairman and CEO of Agenus. "The Gates Foundation has recognized the value of consistent supply of high-quality QS-21 to power vaccines. We appreciate their commitment to bringing innovation to drive access to important therapies."

The alternative manufacturing process for QS-21 will be developed in an exclusive partnership with Phyton Biotech², a company with extensive experience developing and applying green chemistry solutions for the production of high-value phytochemicals. Leveraging its Plant Cell Fermentation (PCF[®]) technology, Phyton Biotech will attempt to demonstrate that PCF[®] is a feasible model for the consistent, large-scale and low-cost commercial production of high-quality QS-21 directly from plant cell cultures.

About Agenus

Agenus is a clinical-stage immuno-oncology company focused on the discovery and development of therapies that engage the body's immune system to fight cancer. The Company's vision is to expand the patient populations benefiting from cancer immunotherapy by pursuing combination approaches that leverage a broad repertoire of antibody therapeutics, proprietary cancer vaccine platforms, and adoptive cell therapies (through its AgenTus Therapeutics subsidiary). The Company is equipped with a suite of antibody discovery platforms and a state-of-the-art GMP manufacturing facility with the capacity to support early phase clinical programs. Agenus is headquartered in Lexington, MA. For more information, please visit www.agenusbio.com and our twitter handle @agenus_bio. Information that may be important to investors will be routinely posted on our website and twitter.

About Phyton Biotech

Phyton Biotech, a wholly-owned subsidiary of DFB Pharmaceuticals, is the global leader in Plant Cell Fermentation (PCF[®]) Technology, offering comprehensive services for the development and commercialization of plant-based molecules, extracts and recombinant products, serving the pharmaceutical, Chinese Traditional Medicine, cosmetic, agricultural and food ingredient industries. Using PCF[®], Phyton Biotech offers a time, risk and cost-balanced path to commercially viable production processes, overcoming limitations often experienced with traditional plant extraction and chemical synthesis. As a biotechnology leader with certified GMP facilities in Germany and Canada, Phyton Biotech has a successful track record of developing and implementing innovative contract development solutions for clients around the world. The company is globally recognized for revolutionizing the manufacturing process for Paclitaxel from plant cell cultures using PCF[®]. Phyton Biotech is now the world's largest producer of Paclitaxel and Docetaxel via PCF[®], with the capacity to meet more than one-third of the global demand for these critical active pharmaceutical ingredients. More info: phytonbiotech.com.

Forward-Looking Statements

This press release contains forward-looking statements that are made pursuant to the safe harbor provisions of the federal securities laws, including statements regarding Agenus' plans to develop a cell-culture based, environment friendly manufacturing technique as an alternative method to produce QS-21 in partnership with Phyton and the Bill & Melinda Gates Foundation. These forward-looking statements are subject to risks and uncertainties that could cause actual results to differ materially. These risks and uncertainties include, among others, the factors described under the Risk Factors section of our most recent Quarterly Report on Form 10-Q or Annual Report on Form 10-K filed with the Securities and Exchange Commission. Agenus cautions investors not to place considerable reliance on the forward-looking statements contained in this release. These

statements speak only as of the date of this press release, and Agenus undertakes no obligation to update or revise the statements, other than to the extent required by law. All forward-looking statements are expressly qualified in their entirety by this cautionary statement.

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¹ Through AgenTus Therapeutics, a subsidiary of Agenus

² Phyton Biotech will receive funding directly from Agenus to perform these services.

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