



Press Release

Astellas and iota Biosciences Enter into Collaborative Research and Development Agreement

-Companies to explore new biosensing and treatment measures using ultra-small implantable medical devices-

TOKYO and Berkeley, CA., September 13, 2019 - Astellas Pharma Inc. (TSE: 4503, President and CEO: Kenji Yasukawa, Ph.D., "Astellas") and iota Biosciences, Inc. (Co-founders and Co-CEOs: Michel Maharbiz, Ph.D. and Jose Carmena, Ph.D., "iota") today announced a joint research and development agreement to explore new biosensing and treatment measures using ultra-small implantable medical devices. Under this collaboration, Astellas and iota will jointly design detailed specifications of implantable medical devices and conduct preclinical studies for several diseases with high unmet medical needs.

iota is a California-based start-up company specializing in the bioelectronics field that develops millimeter-sized implantable medical devices. iota's proprietary technology uses ultrasound as a tool for power supply and wireless communication resulting in the ability to develop battery-free and wireless ultra-small implantable medical devices.

Conventional implantable medical devices have faced challenges related to their size, imposed by the need for batteries, wires and large electronic circuits. It is expected that the battery-free and wireless ultra-small implantable medical devices we will develop will enable new classes of biosensors to monitor the condition of tissues and organs, as well as new treatment devices by providing stimulation to nerves and muscles.

"We envision a future in which our ultra-small implantable devices will be used in combination with, or as an alternative to, conventional diagnostics and therapies," said Carmena and Maharbiz. "Through our collaboration with Astellas, we expect to make our innovative technologies available to patients around the world."

"We are very pleased to be able to collaborate with iota, led by pioneers in the field of bioelectronics," said Naoki Okamura, Representative Director Corporate Executive Vice President, Chief Strategy Officer, Astellas. "With our Rx+™(1) strategy, we aim to create innovative healthcare solutions that combine our strengths in the prescription

drug (Rx) business developed over many years with technologies and knowledge from fields outside of the traditional Rx space. This agreement is part of our efforts, and we will continue to actively invest in this field."

In May 2018, Astellas Pharma invested in *iota* through its U.S. subsidiary Astellas Venture Management LLC.

The impact of this agreement on Astellas' financial results in the fiscal year ending March 31, 2020 will be limited.

(1) Astellas' Rx+™ Business: A business that leverages the expertise and experiences of Astellas which have been cultivated through its prescription drug (Rx) business, integrates innovative medical technology with cutting-edge technology in different fields, contributes to patients through Patient Journey (overall medical care, including diagnostic, preventive, therapeutic, and prognostic care), and creates new revenue streams separate from Astellas' core Rx products.

About Astellas

Astellas Pharma Inc., based in Tokyo, Japan, is a company dedicated to improving the health of people around the world through the provision of innovative and reliable pharmaceutical products. For more information, please visit our website at <https://www.astellas.com/en>

About *iota* Biosciences

Established in 2017, *iota* is a start-up company focused on building a foundation for the future of bioelectronic medicine. *iota* holds exclusive licenses to "technologies developed at leading U.S. universities which enable vanishingly small devices, including the ground-breaking "neural dust" technology developed by Maharbiz, Carmena and researchers at UC Berkeley *iota*. *iota*'s own proprietary technologies employ ultrasound to provide power and digital, bi-directional wireless communication, to millimeter scale implantable medical devices. By using its proprietary technology to interface with nerves and organs through via devices in the body, the platform enables unprecedented monitoring, recording and modulation with high nerve and organ specificity, capabilities of enormous potential in the diagnosis and treatment of diseases.

Cautionary Notes (Astellas)

In this press release, statements made with respect to current plans, estimates, strategies and beliefs and other statements that are not historical facts are forward-looking statements about the future performance of Astellas. These statements are based on management's current assumptions and beliefs in light of the information currently available to it and involve known and unknown risks and uncertainties. A number of factors could cause actual results to differ materially from those discussed in the forward-looking statements. Such factors include, but are not limited to: (i) changes in general economic conditions and in laws and regulations, relating to pharmaceutical markets, (ii) currency exchange rate fluctuations, (iii) delays in new product launches, (iv) the inability of Astellas to market existing and new products effectively, (v) the inability of Astellas to continue to effectively research and develop products accepted by customers in highly competitive markets, and (vi) infringements of Astellas' intellectual property rights by third parties.

Information about pharmaceutical products (including products currently in development) which is included in this press release is not intended to constitute an advertisement or medical advice.

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