Denka

April 19, 2021

Denka Company Limited

Denka Develops COVID-19 Variants Detection System

～The system detects multiple variants with one type of reagent, streamlining assay processes and expediting detection～

Denka Company Limited (headquarters: Chuo-ku, Tokyo; president: Toshio Imai; hereinafter "Denka") has commenced a verification trial of a variant detection system with the Faculty of Medicine of Toho University, using testing and research reagents that detect COVID-19 variants. The reagent has been developed by Denka jointly with PlexBio Co., Ltd. (headquarters: Taipei; CEO: Dr. Dean Tsao; hereinafter "PlexBio"), a business partner in which Denka owns a 33.4% equity stake. The system uses PlexBio's IntelliPlex™ system and π code(*) technology, which feature high sensitivity and a multiple-assay capability.

As the COVID-19 pandemic persists, concern is rising over the spread of variants in many countries, including Japan. In this situation, issues have emerged with the implementation of assays, which involve a number of processes, and the handling of large numbers of samples, which is time-consuming.

This variant detection system is capable of simultaneously detecting multiple types of mutation sites in variants, which are known as the UK-type, Brazilian-type, South African-type and Californian-type, with one type of reagent. Accordingly, the system is expected to help institutions conducting assays streamline the assay process and expedite detection.

Denka has commenced a joint verification experiment with Professor Kazuhiro Tateda and Professor Yoshikazu Ishii (Department of Microbiology and Infectious Disease) of the Faculty of Medicine of Toho University, using a prototype of the testing and research reagent and PlexBio's RUO (Research Use Only) measuring device. Initial results have been promising. Denka aims to promote the product as a variant detection system within a month or two, with a focus on sales to institutions conducting assays.

Denka considers measures against COVID-19 to be part of its social responsibility. With this in mind, it is pursuing initiatives to contribute to measures against COVID-19 from a range of perspectives with the cooperation and support of government agencies, public institutions, and domestic and overseas research institutions. Taking full advantage of π code technology features, namely, highly sensitive detection and the multiple-assay capability, Denka will contribute to advances in epidemiological research. By doing so, it will work to improve quality of life and aim to become a company that is genuinely needed by society.

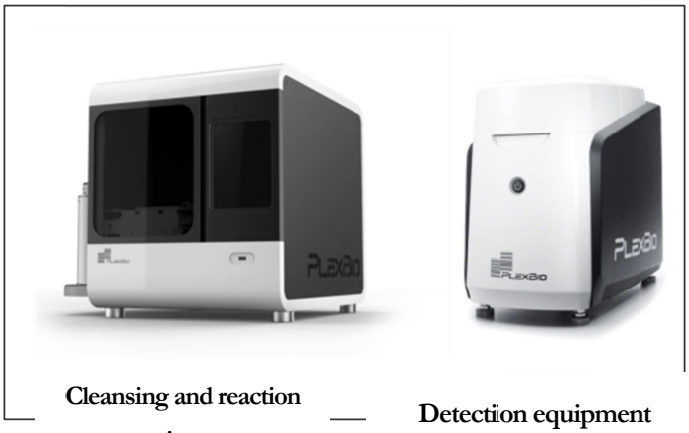
(*)The IntelliPlex™system and π code technology

A key component of the IntelliPlex™ system created by PlexBio, π code technology involves the use of magnetic micro discs engraved with a unique pattern. These discs can be attached to probes used for antibody and genetic measurement to help identify substances under examination and enables simultaneous multiplex assays. The combination of π code technology and measurements based on fluorescence spectroscopy utilizing fluorescent tagging—a highly sensitive detection method conventionally limited to one target at a time—ensures that the IntelliPlex™ system is not only capable of highly sensitive detection but the simultaneous analysis of multiple items as it employs image recognition to read the probe discs.

Image of π code

Diameter: 50μm or smaller

Pictures of laboratory instruments developed by PlexBio



Cleansing and reaction equipment — **Detection equipment**

・IntelliPlex™ is a registered trademark of PlexBio Co., Ltd.

・For more details of PlexBio, the IntelliPlex™ system and π code technology, please also visit PlexBio's official website (http://www.plexbio.com).

*The impact of this matter on the forecast consolidated financial results for the fiscal year ending March 31, 2022 (scheduled to be announced on Wednesday, May 12, 2021) is minor.

*Reference

"Denka to Step up Business Alliance with Taiwan-Based PlexBio through the Acquisition of Shares Offered via Third-Party Allotment" (July 30, 2019)

https://www.denka.co.jp/eng/storage/news/pdf/240/20190730_pb_e.pdf

About Denka

Denka is a chemical manufacturer headquartered in Chuo-ku, Tokyo. The company specializes in developing business activities on a global scale across a wide range of fields, from inorganic and organic chemicals, to electronic materials and pharmaceuticals. Founded in 1915, Denka has steadily continued to develop and manufacture products that contribute to the development of society by fully utilizing its unique concepts and technological capabilities. Upholding its corporate slogan, "Possibility of chemistry" the company and its president, Toshio Imai are committed to contributing to the sound development of the society while sincerely tackling the challenges that the society is now confronting.

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