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ASIA EDITION

Shimadzu releases CellTune software for supporting optimisation of cell culture conditions

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Launching a recurring-revenue business for cell culturing within 2024



Japan's Shimadzu Corporation has released CellTune software for supporting optimisation of cell culture conditions that uses artificial intelligence (AI) to assist with selecting optimal cell culture conditions.

This product suggests optimal conditions, such as the optimal culture medium composition or culturing environment, based on data from culture supernatant analysed using a liquid chromatograph mass spectrometer (LC-MS) system and LC/MS/MS method package for cell culture profiling.

Large-scale production of antibody drugs or cell-based drugs using cell culturing technology can involve significant risk, due to the time-consuming culturing processes and expensive culture media. Therefore, it is important to specify culture conditions (parameters) that can produce high-quality cells at a low cost.

Since February 2022, Shimadzu has been working with an AI startup company Epistra Inc. (based in Minato-ku, Tokyo) to develop solutions for optimising culture conditions. That collaboration resulted in the development of CellTune, which includes a feature extraction module for identifying parameters that have a major influence on culturing results based on data from analysing 144 components in culture supernatant using a Shimadzu LC-MS system and an AI automatic optimisation module for suggesting optimal culture conditions.

Epistra will now use CellTune to offer a culture condition optimisation consulting service for pharmaceutical companies, contract drug manufacturers, food manufacturers with microbial fermentation technology, and others. Shimadzu Diagnostics Corporation (SDC), a Shimadzu Group company, manufactures reagents, culture media, and other products related to cell culturing. In 2024, Shimadzu Corporation and SDC will launch a new company that generates recurring revenues from supplying culture media suggested by CellTune software.

In the future, Shimadzu Corporation will also develop various technologies and products for assisting cell culturing based on using CellTune in addition to parameters based on measurement results from instruments other than cell imaging or LC-MS instruments.