

# Press Release

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## **New i-Series Plus integrated HPLC Significantly improved analytical productivity with automated pretreatment operations**

**i-Series Plus consists of compact HPLC and UHPLC systems /  
Cannabis Analyzer for potency testing of cannabis for medical use. /  
i-Series: innovative, intuitive, intelligent**

This year celebrating the 50th anniversary of its presence in Europe, Shimadzu emphasizes its Excellence in Science approach through the release of the new i-Series Plus integrated HPLC. The i-Series Plus highlights the company's position of a world leader in analytical instrumentation. This compact solution covers conventional to ultra-fast LC analysis. Application-specific solutions are available within the product range such as the Cannabis Analyzer for potency testing of primary active components of cannabis for medical use. It offers a simple procedure, complete with a column, methods, batches and report templates.

With the i-Series Plus, pretreatment operations have been automated, such as the processes to dilute samples and add reagents. This results in less mistakes and measurement errors and ensures highly reproducible and reliable data in the analysis of pharmaceuticals and foods. i-Series Plus also offers compliance features satisfying the data integrity requirements of the pharmaceutical industry.

Since the release of i-Series systems in 2014, 10,000 units have been sold around the world. i-Series systems have been used for research and development activities, specification tests and quality control operations in a wide range of application fields, such as pharmaceutical, chemical and food industries.

i-Series Plus expands the product line and improves performance and user-friendliness. The character "i" in i-Series stands for "innovative" for further advancement, "intuitive" for user-friendly features and "intelligent" for the system's self-diagnostic tools. The new system is equipped with a function to automate sample pretreatment, which serves to minimize operator mistakes and measurement errors, improve separation of the target components and to enhance sensitivity. Core features are:

### **1. Automated sample pretreatment operations**

The system has pretreatment functions to adjust the samples before starting

analysis, including processes to dilute the target component contained in the sample to be measured and to add a certain amount of a reaction reagent in order to detect the target component with high sensitivity. The system can automatically dilute samples up to 100 times. Automated reagent addition allows a wider range of components to be analyzed directly. For example, amino acid components in foods can be analyzed in a short time with high sensitivity.

## **2. Support of data integrity features for pharmaceutical industry**

There have been a number of cases that do not satisfy the requirements for data integrity as specified by regulatory agencies, making pharmaceutical manufacturers concerned about this issue. Strict observation of the requirements for analytical data management (Attributable, Legible, Contemporaneous, Original, Accurate) is demanded. Analytical instruments are required to have a function to limit orphan data (measurement results that can be acquired, or actions that can be performed without leaving records on the instrument). The i-Series Plus has a mode to inhibit orphan data. Both the instrument and software support data integrity.

## **The line of products**

The i-Series Plus consists of the compact HPLC Prominence-i and UHPLC system Nexera-i. High speed analysis, simplified method transfer, minimized environmental impact and easy maintenance are just a few of the many new features of this product range. The i-Series product line covers

- **Prominence-i**  
an integrated HPLC with excellent performance and user-friendliness. It provides highly-stable baselines by incorporating a double temperature control function in the detector that is resistant to room temperature variations, and high reproducibility in micro quantity injections of 1 µL or less. Its main unit has a touch panel and a part replacement navigation function. It is highly compatible with other instruments, also with data obtained using other manufacturer's LC unit.
- **Nexera-i**  
which has, in addition to the basic performance described above, pressure resistance of 66 MPa to support ultra-high-speed analysis.
- **Prominence-i LT**  
that does not include an absorbance detector as the other models, to offer full flexibility in detector choice.
- **Nexera-i MT**  
which simplifies the process of migrating methods between an ultra-high performance liquid chromatograph (UHPLC) and standard HPLC.

### Web summary

Shimadzu's i-Series Plus expands the product line and improves performance and user-friendliness. With i-Series Plus, pretreatment operations have been automated, such as the processes to dilute samples and add reagents. This results in better reproducibility and measurement accuracy by minimizing human error, to ensure reliable data in the analysis of pharmaceuticals and foods. i-Series Plus also offers new features that satisfy data integrity requirements of the pharmaceutical industry. The i-Series Plus consists of the compact HPLC Prominence-i and UHPLC system Nexera-i.



**Figure 1:** The new i-Series Plus integrated HPLC significantly improves analytical productivity with automated pretreatment operations. The i-Series Plus consists of the compact HPLC Prominence-i and UHPLC system Nexera-i.

Web link: [www.shimadzu.eu/i-series](http://www.shimadzu.eu/i-series)



For further editorial questions, please contact:

**Marketing Communication Europe**

Shimadzu Europa GmbH

Albert-Hahn-Str. 6-10

D-47269 Duisburg, Germany

Tel.: +49 (0)203-7687410

E-Mail: [shimadzu@shimadzu.eu](mailto:shimadzu@shimadzu.eu)

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