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LC-MS Contract Analysis Service New Option "KNApSAcK Search" Launching March 2026

Hirata Corporation has been promoting research and development related to biological genetic resources—primarily plant-derived materials—as a new business domain. Since April 2025, we have been providing contract analysis services using state-of-the-art gas chromatography–mass spectrometry (GC-MS) and liquid chromatography–mass spectrometry (LC-MS)※1.

Following the announcement on October 20, 2025, that we obtained commercial usage rights for the “KNApSAcK Core” database from Nara Institute of Science and Technology※2, we are pleased to announce that a new analytical option utilizing KNApSAcK Core—“KNApSAcK Search”—will be available starting in March 2026.

※1 GC-MS/LC-MS Contract Analysis Service: A service that provides analytical data by separating components in customer-provided samples through chromatography and detecting them using mass spectrometry. Both volatile compounds and soluble compounds can be detected.

※2 KNApSAcK Core: Commercial License Acquired for “KNApSAcK Core” Database from Nara Institute of Science and Technology

I. Overview

“KNApSAcK Search” is an analytical option that enables comprehensive screening of candidate compounds by integrating the globally used natural compound database “KNApSAcK Core” with the high-resolution mass spectrometry (LC-MS) data obtained by our company.

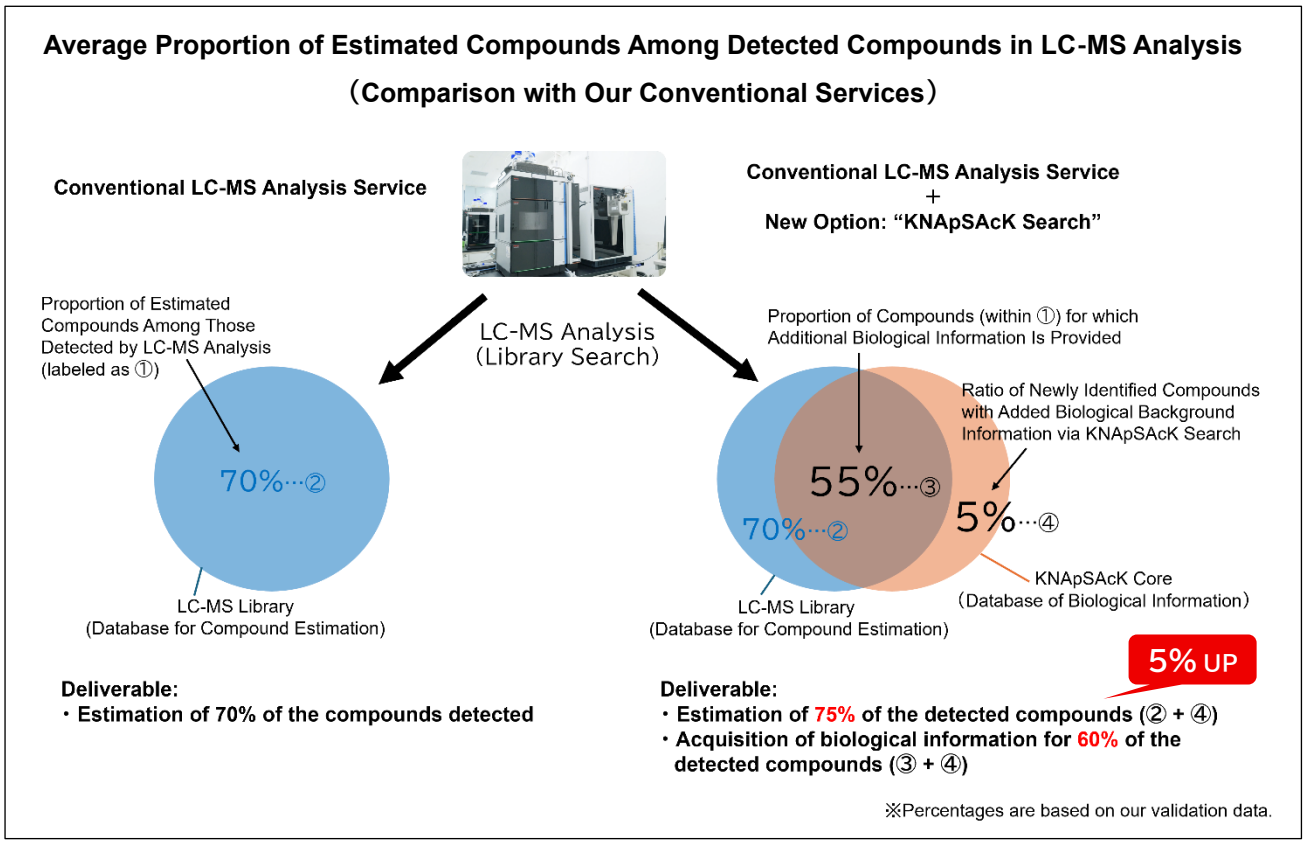
II. Background

In the course of conducting research and development that leverages biological genetic resources, our company has required advanced qualitative analysis capable of precisely identifying the components contained in natural materials. However, with conventional LC-MS libraries, many compounds remain difficult to estimate, and cases in which sufficient analysis cannot be achieved have been increasing.

To address this challenge, we have developed and implemented a proprietary analytical method that integrates our high-resolution LC-MS data with the compound information in “KNApSAcK Core” to search for candidate compounds. This method has demonstrated the following results.

- Higher extraction rate of candidate compounds compared with conventional methods
- ・Enhanced capability to support compounds derived from natural products
- In addition to chemical information, biological insights, including literature data and information on source organisms can also be incorporated.

Based on these results, we concluded that this approach would be highly beneficial for customers engaged in natural product research, and have therefore decided to offer it as a new service option.



III. Features

- **Improved search comprehensiveness through the use of "KNApSAcK Core"**
  By integrating the "KNApSAcK Core" database with our LC-MS data, it is now possible to perform broader and more comprehensive searches than ever before.

- **High-accuracy annotation※3 using fragment information**
  By comparing the fragment ions※4 predicted from the structures of the compounds obtained through the search with the experimentally measured fragment ions from mass spectrometry, the system enables scoring and ranking based on similarity. This improves the accuracy of compound prediction.

※3 Annotation: The process of estimating which compound corresponds to an obtained spectrum and assigning relevant attribute information to it.

※4 Fragment ion: A small ion generated in mass spectrometry when a molecule, after ionization, undergoes bond cleavage and breaks into smaller fragments.

- **Abundant compound information well-suited for natural product research**
  "KNApSAcK Core" links each compound name with related information such as source organisms and references, enabling researchers to obtain essential biological context for natural product studies. When used in combination with conventional library searches, it enhances both the accuracy of compound estimation and the depth of scientific interpretation.

Building on the introduction of this service, our company will continue to develop new solutions that integrate "KNApSAcK Core" with our analytical technologies, contributing to advances in plant and natural product research.

IV. Impact on Financial Performance

At present, the impact of this initiative on our financial performance is undisclosed.

End

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