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Press Release

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Safer food with two new special HPLC analyzers

Fast, high-sensitivity detection /
Screening analyses of up to 10 mycotoxins or 24 synthetic antimicrobials /
Special kit with analytical conditions and columns

Shimadzu, one of the world leaders in analytical instrumentation, has released two i-Series HPLC analyzers for food safety requirements: a mycotoxin screening system and a synthetic antimicrobial screening system. These new i-Series food safety analyzers support the need for fast, high-sensitivity examinations for controlled components such as mold toxins (mycotoxins) and synthetic antimicrobials (sulfa-based and quinolone-based agents) included in the raw materials for food products.

Background to the development
Measurement methods for mold toxins, synthetic antimicrobials and other controlled components are prescribed in the official regulations of each country in the world. Exported food must be tested carefully for the presence of controlled components according to the regulations of the destination country. Multiple cycles of analysis must be performed for each sample.

In consideration of this need, Shimadzu has released the i-Series food safety analyzers, which are based on the i-Series of integrated high performance liquid chromatographs (HPLC). The i-Series food safety analyzers can rapidly process large numbers of food samples by performing screening analyses of up to 10 mycotoxins or 24 synthetic antimicrobials, including components that are currently controlled or may be regulated in the future.

Features

1. High-sensitivity detection of mycotoxins at maximum residue levels as regulated by the European Commission[1]
Mold toxins refer to those metabolites produced by mold adhering to foods; they are toxic and harmful to people and animals. Recently, there has been an increase in voluntary examinations for mold toxins included in raw materials to promote food

[1] Food products for infants are excluded

product safety. The mycotoxin screening system can detect 10 mycotoxins at EU standard concentrations, the strictest in the world, at high sensitivity in just 14 minutes. Due to proprietary pretreatment methods, derivatization of samples is not required, which streamlines the measurement process.

2. High-sensitivity detection of synthetic antimicrobials at maximum residue levels as regulated by the European Commission

Synthetic antimicrobials are a type of food additive and drug for animals. They are used in farm and fishery products to treat and prevent diseases. Currently, there is a growing demand for simultaneous screening of multiple food additives, toxic substances and animal drugs as the food distribution channels are becoming more diversified. This screening system provides highly sensitive HPLC screening of 24 synthetic antimicrobials (e.g. sulfonamides, quinolones) that are regulated and need to be controlled carefully.

3. Special kits with analytical conditions and columns

Two special kits that include analytical conditions for controlled components and special analytical columns enable immediate sample measurement. Furthermore, even less experienced analysts can collect consistent data by referring to written instructions that summarize key points for each applicable sample. The mycotoxin screening kit supports rapid screening for 10 mycotoxins applicable to wheat flour, rice flour and other grains, as well as apples and milk samples, while with the antimicrobial screening kit 24 synthetic antimicrobials can be measured in chicken, pork and beef samples. In addition, qualitative information on the synthetic antimicrobials detected can be obtained by UV spectral library searches, heightening the reliability of the data acquired.

4. Screening results can be checked at a glance

As soon as measurements are completed, results can be checked quickly with the LabSolutions analysis software. Measurement data, such as whether controlled components exceed threshold values or whether they have been separated properly from contaminant components, can be listed, enabling sample pass/fail judgements to be performed at a glance.

Web summary

Shimadzu has released two new i-Series food safety analyzers which provide fast, high-sensitivity tests for controlled components such as mold toxins (mycotoxins) and synthetic antimicrobials included in the raw materials for food products. Two special kits that include analytical conditions for controlled components and special analytical columns enable immediate sample measurement. The i-Series food safety analyzers support rapid screening for 10 mycotoxins applicable to wheat flour, rice flour and other

grains as well as apples and milk samples, and 24 synthetic antimicrobials applicable to chicken, pork and beef samples. Results can be checked quickly with the LabSolutions analysis software.

Figure 1: The new Shimadzu i-Series food safety analyzers provide fast, high-sensitivity tests for controlled components such as mold toxins (mycotoxins) and synthetic antimicrobials. Rapid screening is available for 10 mycotoxins in e.g. wheat flour, rice flour and other grains, , as well as 24 synthetic antimicrobials in various meat samples.

Web links:

https://www.shimadzu.eu/antimicrobial-screening-system

https://www.shimadzu.eu/mycotoxin-screening-system

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