SHIMADZU
Excellence in Science

Press Release

A-GB-14019

August 20, 2014

Breakthrough in purification

Automated scale-up system for reversed phase purification / Joint development with Takeda Pharmaceutical Company / ASAPrep for RPC runs on an LCMS-2020 single quadrupole system

Shimadzu, one of the world leaders in analytical instrumentation, has released its automated scale-up system named ASAPrep for RPC in reversed phase purification. ASAPrep is an acronym for "Automated Scale-up from Analytical to Preparative conditions". It is an algorithm (patent pending) for calculation of optimal initial organic mobile phase concentration in preparative scale using the retention time acquired by LC-PDA-MS measurement and judging of the difference between success and failure of purification. Its calculation uses pre-registered ASAPrep operational expression on newly developed Open Solution Purification software.

ASAPrep for reversed phase purification (RPC) enables construction of a user-independent purification workflow. Based on an algorithm, the preparative method is created automatically, and users will save time and increase throughput. ASAPrep for RPC runs on an LCMS-2020 single quadrupole system in analytical and preparative mode.

A cycle from synthesis of New Chemical Entities (NCE) and purification to High Throughput Screening (HTS) needs to be turned around smoothly to enhance throughput in medicinal chemistry. In the case of NCE synthesis and HTS, its automation is recently advanced but the speed of purification does not match NCE synthesis and HTS.

Joint development with Takeda Pharmaceutical Company

Medicinal chemistry departments of large pharmaceutical industries are capable of synthesizing hundreds of new compounds per day, but they cannot provide high purity compounds in sufficient amounts for HTS. This is because the quality of purification depends highly on the skills of the chromatographers.

Based on the requirements of Takeda's researchers, Shimadzu and Takeda have jointly developed ASAPrep for RPC which can automatically predict success and failure of purification and determine an optimal preparative condition. Takeda is the largest pharmaceutical company in Japan and operates subsidiaries on all continents.

Breakthrough in technology

Dr. Teruhisa Ueda, Managing Executive Officer, Director of Analysis and Measuring Business in Shimadzu, states: "We are proud to contribute with a set-up of new purification workflow in Takeda's chemistry department. We believe ASAPrep for RPC is a breakthrough in technology, and not only enables high throughput and automated purification, but also expands popularization of reversed phase purification which has been avoided by researchers due to the hurdle of method development."

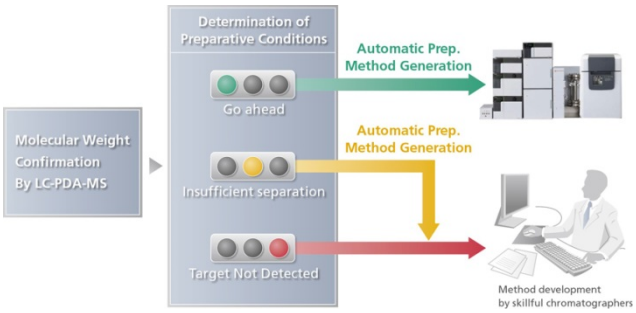

Figure 1: ASAPrep for RPC runs on a LCMS-2020 quadrupole system - It predicts success and failure of purification and determines an optimal preparative condition.

For further editorial questions, please contact:
Uta Steeger, Shimadzu Europa GmbH, Albert-Hahn-Str. 6-10, 47269 Duisburg
Tel.: +49 (0) 203-7687-410, e-mail: us@shimadzu.eu

Additional information is available on Shimadzu's website: www.shimadzu.eu

Download is possible via www.shimadzu.eu/press-information-2014

Follow us on twitter: twitter.com/ShimadzuEurope