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Ion Chromatography Solution for Applied Pharmaceutical Markets

Parul Angrish

Thermo Fisher Scientific, USA

An accurate understanding of the contents of any pharmaceutical entity helps to ensure both drug efficacy and patient's safety. Over several decades, there has been significant improvements in the analytical methods and techniques ensuring critical quality attribute analysis of the pharmaceutical products. The solutions offered by Dionex Ion Chromatography systems are widely adopted and are everyday gaining more traction because of the several technological advancements and benefits in these Dionex IC systems. These advancements include superior accuracy, high-throughput, improved reliability, and environmental safety concerns which significantly contribute towards the critical analysis of the drug entity of interest.

IC primarily relies on suppressed as well as non-suppressed conductivity detections for ionic species in pharmaceutical samples. Dionex IC systems can accurately analyze multiple anions/cations in a single injections, thereby, accelerating the analysis throughput. The productivity can be further improved by converting the single channel system to a dual-channel system where two different samples can be concurrently analyzed. Most recent advancement, Consumables Device Monitor, can automatically identify and tracks the installation time, use, and performance metrics of all the installed IC consumables. This feature can reduce any associated downtime due to consumable installation errors and can even schedule preventive maintenances. Such smart capabilities can significantly improve the productivity as well as lessen the burden on the analysts time in a fast-paced pharmaceutical laboratory.

All modern IC systems can make eluents automatically, allowing the consistent and reliable production of high purity IC eluent concentrations. The only routine reagent then needed is high-purity water. Consequently, the instrument pump seals and pistons only come into contact with deionized water instead of acids and bases which can precipitate. This extends the lifetime of pump seals and pistons, and significantly reduces the overall pump maintenance requirements.

Dionex IC systems are constantly evolving with the changing times and needs. Recent IC systems are equipped with a tablet supporting 11 different languages with an intuitive interface. This tablet control enables direct local control of the system and its status. All these enhanced capabilities and advancements has only led to the successful adoption of IC for analyzing ionic species in pharmaceutical applications.

Biography

Parul Angrish is an experienced professional with broad expertise in developing, commercializing and managing innovative products generating multi-million dollars in revenue. She is currently the marketing manager in the ion chromatography and sample preparation business unit at Thermo Fisher Scientific. She has received her Ph.D. degree in organic chemistry from University of Florida under the guidance of Prof. Alan R. Katritzky. She has co-authored several peer-reviewed articles and is an inventor on several patents. Her current interest focuses on expanding the BioIC applications in pharma and biopharma markets using high-performance anion-exchange chromatography with pulsed amperometry detection (HPAE–PAD).

parul.angrish@thermofisher.com

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