

Micro pillar array columns (µPAC™) for LC-MS proteomics research Reliability and performance in nanoLC



Polygen & PharmaFluidics

Joint webinar on Wednesday, November 18 2020, at 11.00 am to 11.45 am

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NanoLC has been an invaluable tool in MS-based proteomics for many years already. During these years, major steps forward have been made in mass spectrometry and liquid chromatography instrumentation. In recent years, an excitingly new approach for nanocolumn separations has been introduced. Based on a separation bed that consists of an array of micromachined pillars instead of packed particles, the µPAC column technology provides the opportunity to overcome shortcoming often experienced with packed-bed columns, such as column lifetime and column repeatability.



Dr. Duncan Smith



"Exchanging columns is a necessary evil [...]
However, the µPAC™ has been running for over
five months continuously, taking several thou-
sand of injections [...]"

The micro pillars are freestanding in a perfect order. This allows for much lower column pressures than typical sub-2 µm particle nanocolumns, allowing extended column lengths up to 200 cm for comprehensive proteomics research, or much wider flow rate flexibility on the 50 cm µPAC that helps increase sample throughput, moving towards clinical proteomics workflows.



Prof. Dr. Allan Stensballe



"[...] the µPAC™ columns are a perfect fit for
clinical cohort studies. [...] we are able to signifi-
cantly reduce the time between injections directly
adding to sample throughput."

Micromachined manufacturing allows for better column to column repeatability, at the same time providing much more column robustness. Not only will this help minimize the number of column exchanges, always in the way of running an LC-MS project, but also increase the certainty that the results obtained after the exchange are perfectly in line with the results from the previous µPAC column

With the new µPAC Flex iON Connect, a user-friendly and simple to connect interface for the Thermo Scientific nanoFlex ion sources has become available as well. As with the EASY-Spray emitter set-up, both approaches minimize the number of connections to be made, creating a more robust nanospray ionization.

In this 45 minute webinar, co-hosted by Polygen and PharmaFluidics, we will present the technology of µPAC, and show the performance that can be obtained using a variety of proteomic samples. We will compare the µPAC against some of the most used packed-bed nanocolumns, and discuss the possibilities for clinical proteomics (sample throughput) as well as single cell proteomics (extra-small sample volumes).

If you would like to register for the webinar, please confirm by email at: polygen@polygen.com.pl

Presenters: Krystyna Niedzielska (Polygen) and Robert van Ling (PharmaFluidics)