

Ultra-sensitive and stable performance with Whisper Flow Technology

Whisper is the latest Evosep One innovation that allow plug-and-play, split-free 100 nl/min performance. The new methods make use of Evosep's unique low pressure gradient formation and very accurate flow control on the same standard system without technical modifications. The gradient is built and stored in the loop in the low pressure part of the system and then pushed to the analytical column using the high pressure pump, allowing for accurate gradients at very low flow. The Whisper methods are designed for ultra high sensitivity applications, where sample amounts are very limited. The methods are freely available through a software upgrade for standard Evosep One hardware, while optimized columns and emitters are required.

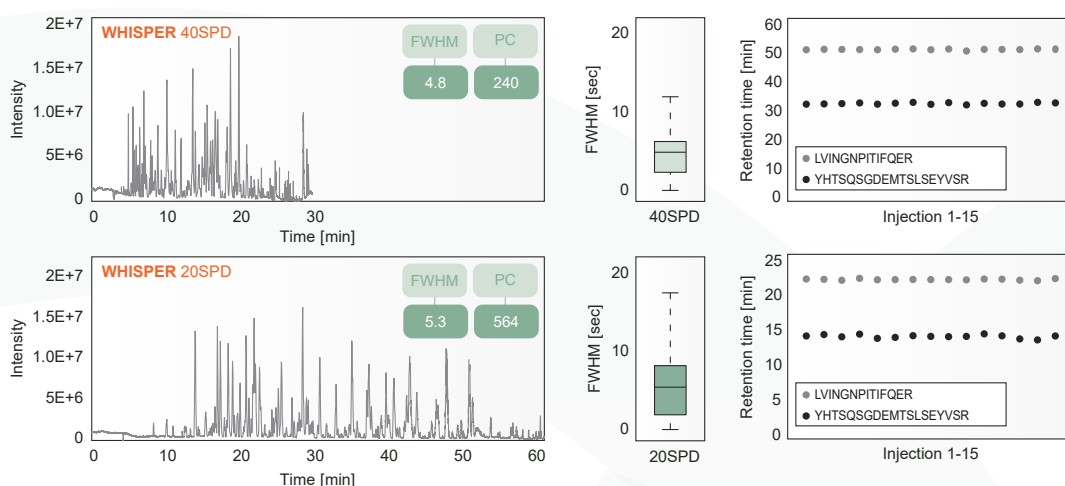


Figure 1: First peptides appear very early with the Whisper (beta) 20 SPD and 40 SPD methods and retention times are remarkably stable.

Robust nanoflow for large sample cohorts

Whisper Flow Technology brings robustness to ultra-low flow nanoLC enabling thousands of runs on the same emitter and the same column. This is proven by a series of measurements over a period of 45 days. From thousand runs, only a slight increase in backpressure is observed over time.

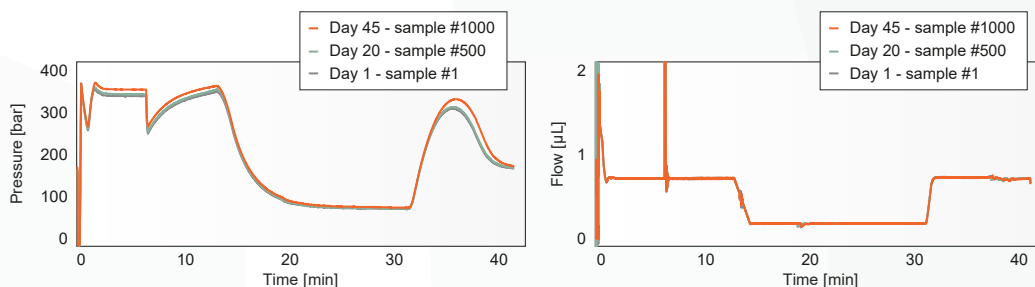


Figure 2: HP pump pressure and flow profiles from a series of thousands of runs only show a slight increase in backpressure over time.

Evotips support handling and preservation of tiny sample amounts

Evotips are disposable C18 based trap columns that will fully capture low sample amounts even if suspended in higher volumes more effectively than trying to aspirate reproducibly from a vial. By eliminating the traditional steps of drying down and resuspending, sample loss is further minimized. This is even more true if samples need to be stored because of plastic adhesion in vials or microtiter-plates, whereas peptides bound to C18 are quite stable. Studies show that loaded Evotips can be stored cold up to 30 days.

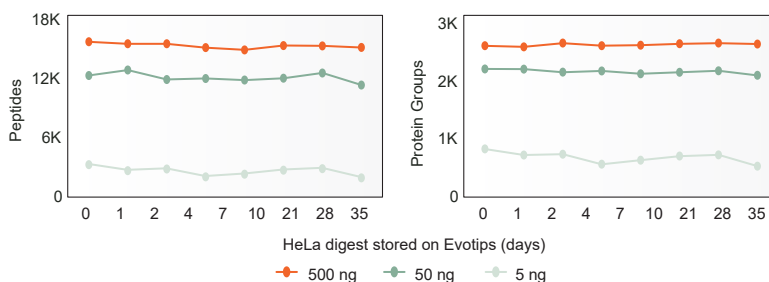



Figure 3: Stability of loaded Evotips measured by peptide and protein coverage.

Finally, partial elution reduces carry-over and improves signal-to-noise by leaving very hydrophobic molecules like lipids and contaminants on the Evotip which then gets disposed as they are single use.

Two available (beta) methods

The Whisper methods are currently available as public beta methods. Both standardized and beta methods are supported, but beta methods may change with customer feedback, so consider to sign up for our (beta) user group to receive relevant news and updates. Consult www.evosep.com/whisper for more information.



- Whisper 40 SPD (beta)
<https://www.evosep.com/plus/whisper-40-spd/>
- Whisper 20 SPD (beta)
<https://www.evosep.com/plus/whisper-20-spd/>

References

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