

EVOTIP

High Sensitivity Evtips

High Sensitivity Evtips for analyzing low sample amounts

For more efficient peptide recovery of small sample loads (< ~100 ng), Evosep recommends High Sensitivity Evtips*, that have superior performance at very low loads and almost identical retention times for other applications.

High Sensitivity Evtips provide significantly more IDs for low sample amounts, with both our standard methods as well as with our Whisper methods specifically designed for ultra sensitive applications.



40% increase in protein identifications

We compared the High Sensitivity Evtip and the standard Evtip with five different HeLa peptide loads ranging from 1 to 50 ng and analyzed them in quadruplicates with the 30 SPD method on an Orbitrap Fusion Lumos using data-dependent acquisition. A significant increase in peptide and protein identifications with the High Sensitivity Evtip is observed, and most pronounced at the very low sample loads.

To benchmark the gain for ultra sensitive applications, we loaded 0.8 ng HeLa peptides in quadruplicates on High Sensitivity Evtips and standard Evtips respectively and measured with the Whisper 40 SPD method on a timsTOF Pro. With more than 40% increase in protein coverage, the High Sensitivity Evtips are ideal for analyzing low sample amounts (Figure 1).

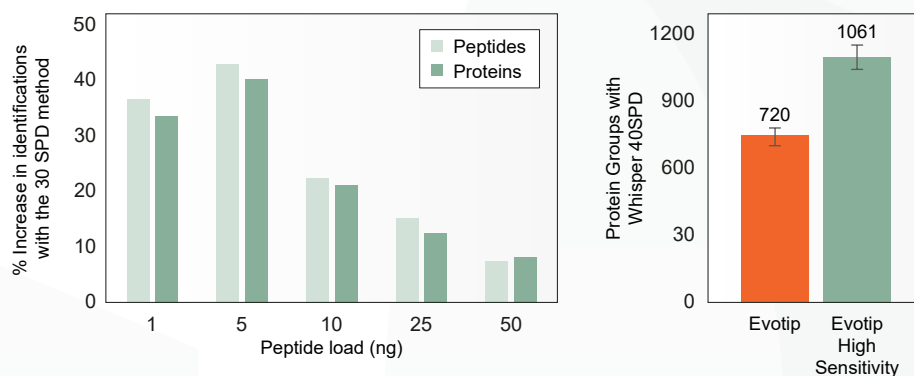


Figure 1: Relative increase in IDs with the High Sensitivity Evtip compared to the standard Evtip with the 30 SPD method absolute identifications from 0.8 ng peptide with the Whisper 40 SPD method.

Better biological insights

When looking deeper into the proteome with data-independent acquisition from 0.8 ng HeLa peptides analyzed with the Whisper 40 SPD method on a timsTOF Pro, we observe that the low abundant proteins identified from the High Sensitivity Evotip have higher intensity than the low abundant proteins measured with the standard Evotip. The higher intensity and lower coefficient of variation (CV) between the four replicates analyzed result in better quantitative accuracy (Figure 2).

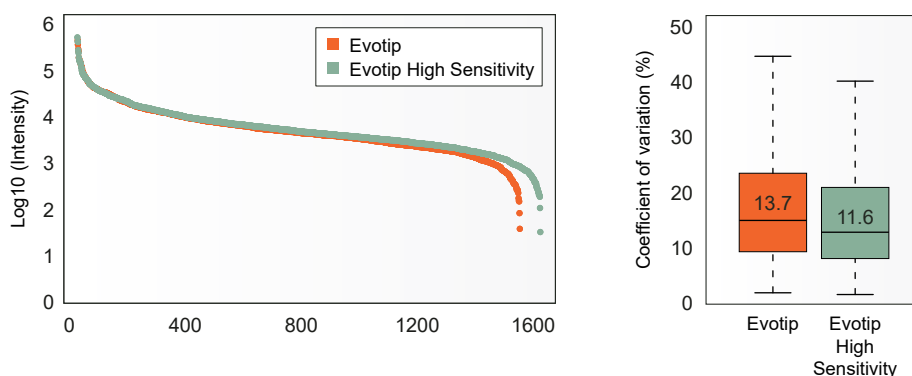


Figure 2: Rank order abundance plot and CV boxplot of proteins measured with the Whisper 40 SPD method from 0.8 ng peptide loaded.

High Sensitivity Evotips for analyzing low sample amounts

High Sensitivity Evotips improve peptide recovery and increase protein identifications for low sample loads. They enable deeper proteome coverage, with lower CVs, making them the ideal choice when analyzing low sample amounts, eg. single cell analysis powered by the Evosep Whisper™ Flow Technology methods.



Ordering information

P/N	PART	DESCRIPTION
EV2103	High Sensitivity Evotip, 10x96 tips	Ten 96-tip racks of disposable, purification trap columns, optimized for low loads.
EV2101	High Sensitivity Evotip, 1x96 tips	One 96-tip rack of disposable, purification trap columns, optimized for low loads.

* High Sensitivity Evotips are based on a cross-linked polystyrene porous particle, used as a reversed phase sorbent for solid phase extraction.

EVOSEP