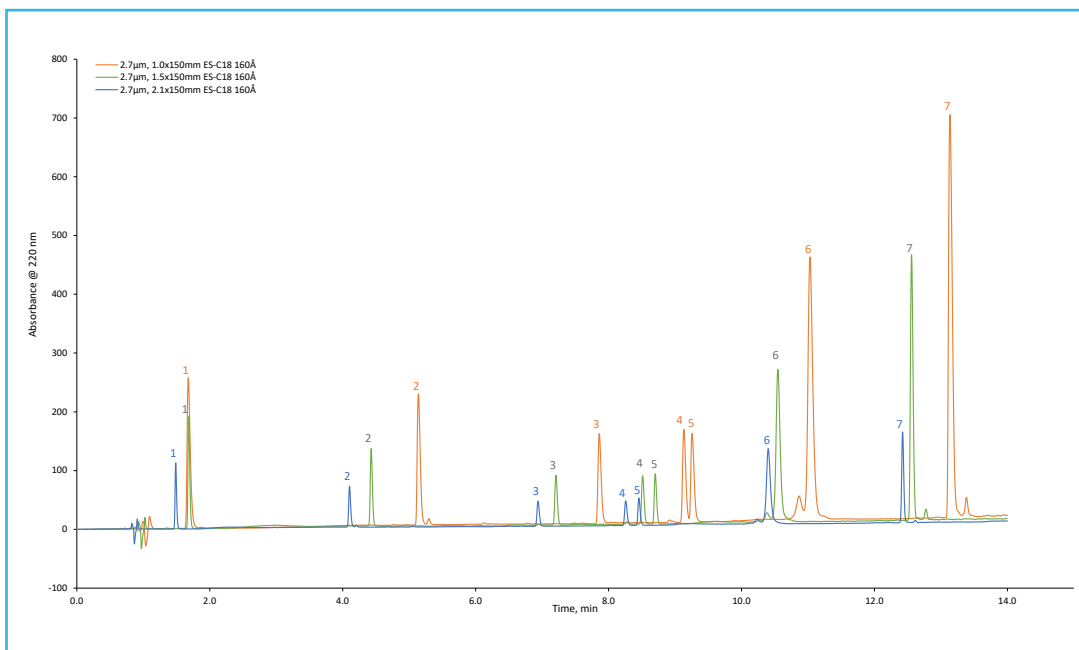




Impact of Column ID on Sensitivity for Peptides and Proteins Using HALO 160 Å ES-C18

301-PR



PEAK IDENTITIES:

1. Gly-Tyr
2. Val-Tyr-Val
3. Methionine Enkephalin
4. Angiotensin II
5. Leucine Enkephalin
6. RNase A
7. Insulin

Sensitivity in UV applications can be increased with simple changes in column dimensions. It is known that by switching to smaller ID columns, the response from the UV detector increases. The comparisons above shows the impact of column dimensions on sensitivity for a mix of peptides and small proteins. By reducing the column ID there is a significant increase in sensitivity. Without a sufficiently low dispersion UHPLC, the 1.0mm suffers from broad peaks, causing reduced resolution.

*The 1.5mm column was run on a reduced dispersion system

TEST CONDITIONS:

Column: HALO 160 Å ES-C18, 2.7 µm, 1.0 x 150 mm

Part #: 92121-702

Column: HALO 160 Å ES-C18, 2.7 µm, 1.5 x 150 mm

Part #: 9212X-702

Column: HALO 160 Å ES-C18, 2.7 µm, 2.1 x 150 mm

Part #: 92122-702

Mobile Phase A: 90/10 Water/ACN 0.1% TFA

Mobile Phase B: 70/30 ACN/Water 0.1% TFA

Gradient: Time (min)	%B
0.0	00
15.0	50
15.1	00
17.0	00

Flow Rate: 0.09 mL/min for 1.0 mm

0.2 mL/min for 1.5mm

0.4 mL/min for 2.1mm

Pressure: 354 bar/1.0mm

427 bar/1.5mm

360 bar/2.1mm

Temperature: 30 °C

Detection: UV 220 nm, PDA

Injection Volume: 1.0 µL

Sample Solvent: Water

Data Rate: 100 Hz

Response Time: 0.025 sec.

Flow Cell: 1µL

Instrument: Shimadzu Nexera X2

