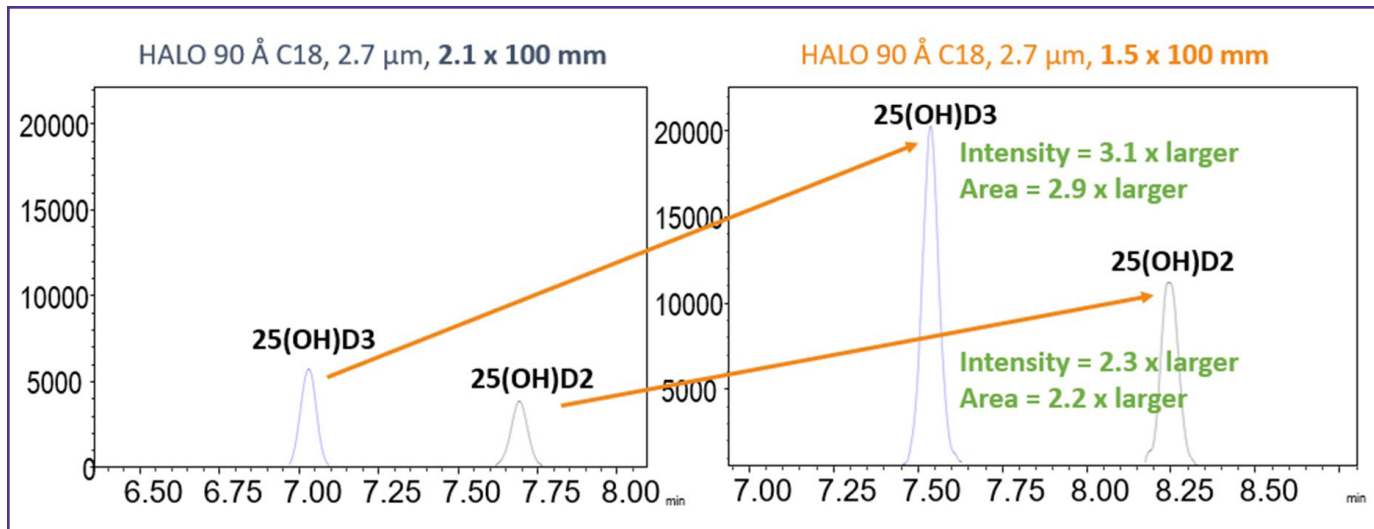




Increased Sensitivity of Vitamin D Metabolites Using LCMS

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TEST CONDITIONS:

Column: HALO 90 Å C18, 2.7μm, 2.1x100 mm

Column: HALO 90 Å C18, 2.7μm, 1.5x100 mm

Part Number: 9281X-602

Tubing (Column to Source): AMT MarvelXACT™ 50 μm x 600 mm

Part Number: PS7050600

Mobile Phase A: Water, 0.1 % Formic Acid

Mobile Phase B: ACN, 0.1 % Formic Acid

Gradient:	Time	%B
	0.00	50
	10.80	92.5
	11.48	95
	12.75	100
	13.75	100
	14.25	50
	20.00	End

Flow Rate: 0.4 mL/min for 2.1 mm
0.2 mL/min for 1.5 mm

Pressure: 370 bar for 2.1 mm
229 bar for 1.5 mm

Temperature: 40 °C

Injection Volume: 1.0 μL @ 500 ppb

Sample Solvent: 50/50/ ACN/H₂O

Detection: +ESI/APCI MS/MS

LC System: Shimadzu Nexera X2

ESI LCMS System: Shimadzu LCMS-8040

PEAK IDENTITIES

25-Hydroxyvitamin D3 (25(OH)D3) m/z - 383.4

25-Hydroxyvitamin D2 (25(OH)D2) m/z - 395.3

A separation of two vitamin D metabolites are performed on both a 1.5 mm and 2.1 mm ID column. The 1.5mm column gives an increase in sensitivity over the 2.1 mm column. With higher ionization efficiencies the 1.5 mm ID column can help reach the LOD of these vitamin D metabolites. By reducing system dispersion with the MarvelXACT™ tubing, the 1.5 mm column can provide great separations and reproducibility.

MS CONDITIONS:

Detection: ESI +/-APCI

Spray Voltage: 4.5 kV

Nebulizing gas: 2 L/min

Drying gas: 15 L/min

DL temp: 250 °C

Heat Block: 300 °C

