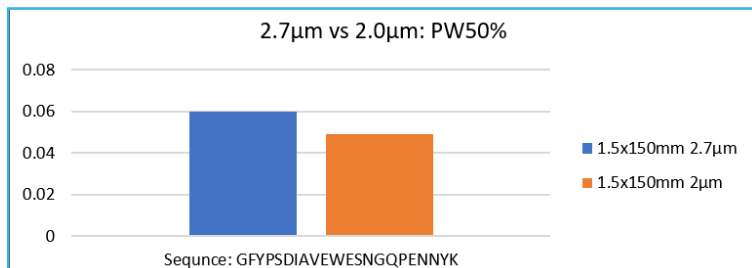
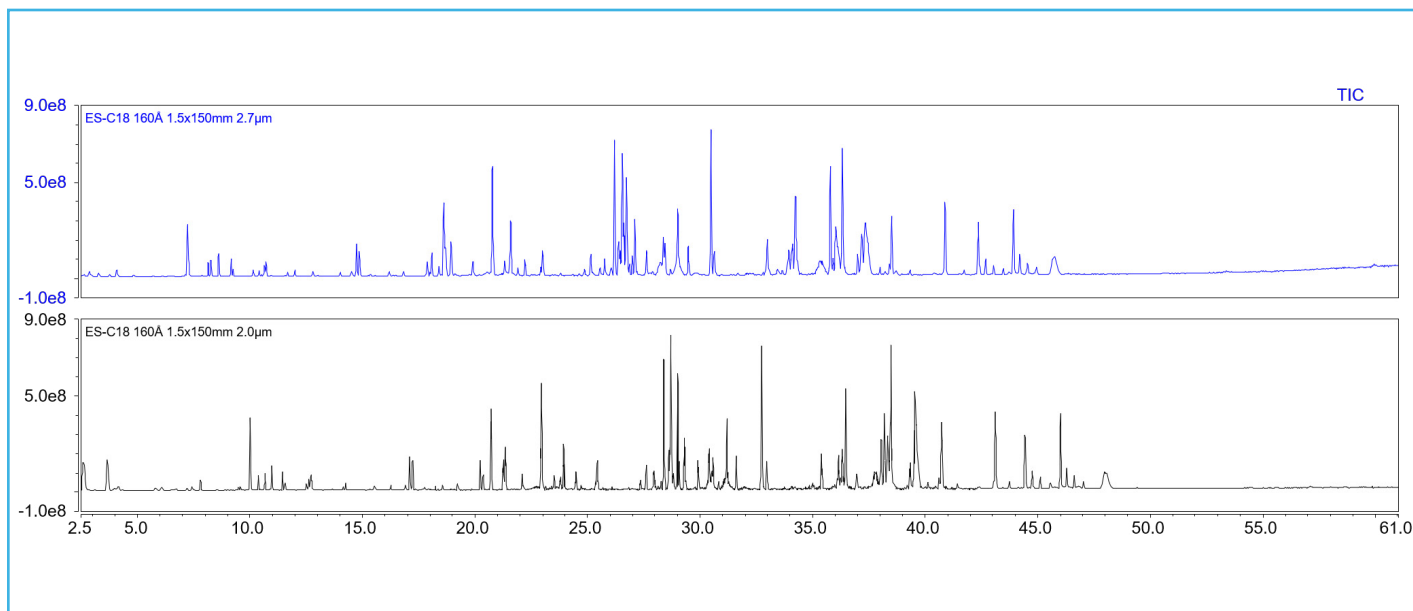




### Trastuzumab Digest Sensitivity Improvement Using a 2µm Particle Size in a 1.5 mm ID Format

BIO-326



A full MS scan of a peptide map is separated on two different HALO® columns. This comparison features both the 1.5 mm 2.7µm ES-C18 column and the 1.5 mm 2µm ES-C18 column. In order to get the best separation of a full peptide map, the sample must be run using a shallow gradient and an efficient column. Column efficiency increases as particle size is reduced. While the 1.5 mm 2.7µm column gives the benefits of a smaller ID, increased sensitivity and decreased solvent consumption, it does not have the same efficiency of a 2µm particle size. By using a HALO® 1.5 mm ID 2µm ES-C18 column not only can you gain the benefits of a smaller ID but you can also decrease the peak widths of your separation with the smaller particle size. A graph of the peak widths at 50% height for the sequence GFYPSDIAVEWESNGQPENNYK has been included in order to visualize the efficiency of the 2µm column.



**TEST CONDITIONS:****Column:** HALO 160 Å ES-C18 , 2.0 µm, 1.5 x 150 mm**Part Number:** 9112X-702**Column:** HALO 160 Å ES-C18 , 2.7 µm, 1.5 x 150 mm**Part Number:** 9212X-702**Mobile Phase A:** Water, 0.1% DFA**Mobile Phase B:** Acetonitrile, 0.1% DFA

Gradient: Time	%B
0.5	2
60.5	50
61.0	70
65.0	70
65.5	2
70.0	2

**Flow Rate:** 0.2 mL/min**Pressure:** 372 bar 2µm  
240 bar 2.7µm**Temperature:** 60 °C**Injection Volume:** 1 µL**Sample:** 1mg/mL Trastuzumab tryptic digest**Sample Solvent:** 1.5M Guanidine HCl/0.5% Formic Acid/~50mM Tris pH: 7.8**LC System:** Shimadzu Nexera X2**TUBING OPTIMIZATION:**

50µm x 600mm Column to Diverter Valve

50µm x 350mm Diverter Valve to Ground

50µm x 100mm Ground to Source

**MS CONDITIONS:****System:** ThermoFisher Q Exactive**Spray Voltage (kV):** 3.8**Capillary temperature:** 320 °C**Sheath gas:** 35**Aux gas:** 10**RF lens:** 50