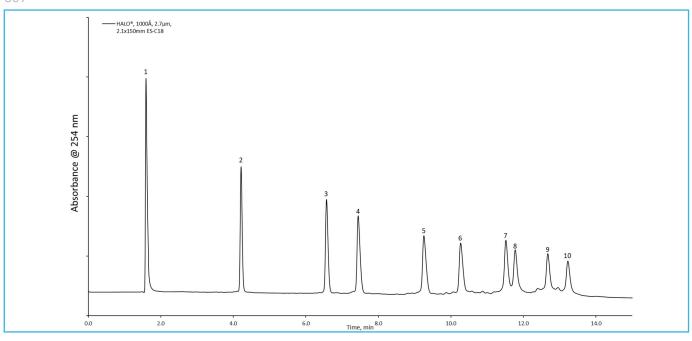


BIOPHARMACEUTICALS



Oligonucleotide Ladder Separation on HALO 1000 Å ES-C18





TEST CONDITIONS:

Column: HALO 1000 Å ES-C18, 2.7µm, 2.1 x150 mm

Part Number: 92712-702

Gradient:

Mobile Phase: A: 100mM TEAA Buffer, pH 7.0

B: 80/20 A/ACN Time %B

0.0 40 20.0 62.5 22.0 100 23.0 100 23.1 40

28.0 40

Flow Rate: 0.2 mL/min Pressure: 140 bar Temperature: 60 °C Detection: 254 nm Injection Volume: 1 µL

Sample Solvent: 10mM Tris EDTA Buffer

Data Rate: 100 Hz Response Time: 0.025 sec

Flow Cell: 1 µL

LC System: Shimadzu Nexera X2

A separation of an oligonucleotide ladder is performed on a HALO 1000 Å ES-C18 column. The column shows great retention and resolution of larger oligonucleotides. The 1000 Å pore size allows for better peak shapes of the larger oligonucleotides which elute after the 6 minute mark. The sample was marketed as a oligo ladder from 20 to 100 mer on length which should be 9 peaks. The ladder being separated shows 10 peaks with the extra peak potentially being an impurity or intermediate oligonucleotide.

*We are currently in the process of determining the peak identities of the ladder as well as any impurities or potential extra oligonucleotides within the sample.



