

Oligonucleotide Analysis by Size Exclusion Using a Biozen™ dSEC-2 Column

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Overview

Therapeutic oligonucleotides represent a rapidly expanding group of therapeutics for the treatment of a variety of disease indications. Short interfering RNA, antisense oligonucleotides and aptamers are all part of the emerging modalities being explored as therapeutic platforms. The ability to carefully monitor the chain distribution and synthesis quality of these various components is essential to experimental integrity and patient safety. The plethora of oligonucleotide varieties proves challenging from an analytics standpoint. In this application note, we demonstrate the utility of size-exclusion chromatography (SEC) for the detection of high-order structure of single-stranded DNA oligonucleotides by size exclusion.

LC-UV Conditions

Column: Biozen 1.8 μ m dSEC-2
Dimension: 300 x 4.6 mm
Part No.: [00H-4787-E0](#)
Mobile Phase: 20 mM Tris-Base + 150 mM Sodium Chloride, pH 7.4
Flow Rate: 0.35 mL/min
Injection Volume: 5 μ L
Temperature: 25 $^{\circ}$ C
Detection: UV @ 254 nm
Sample: 30mer (2.5 μ g)
100mer (2.5 μ g)

Figure 1. Successful Separation of a 30mer and 100mer Oligo Using the Biozen 1.8 μ m dSEC-2 Column

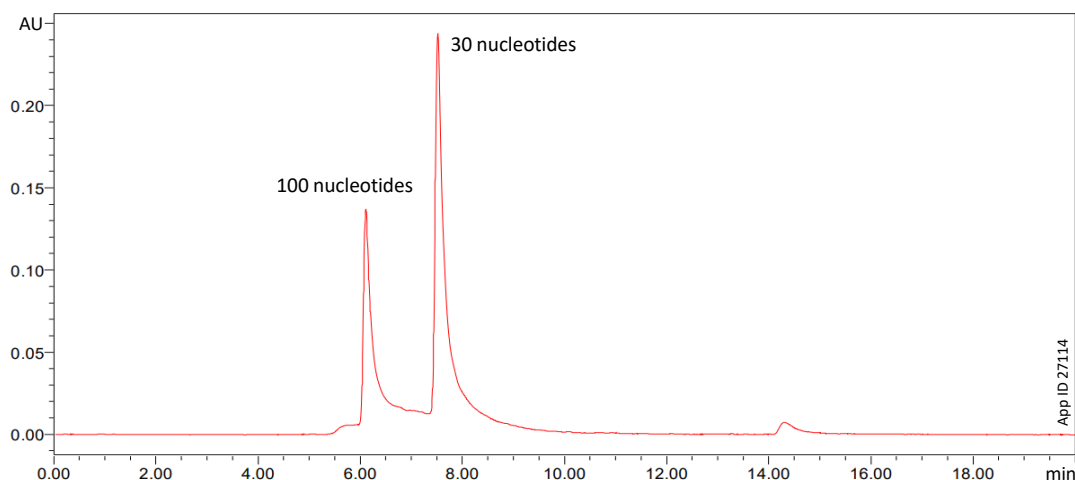
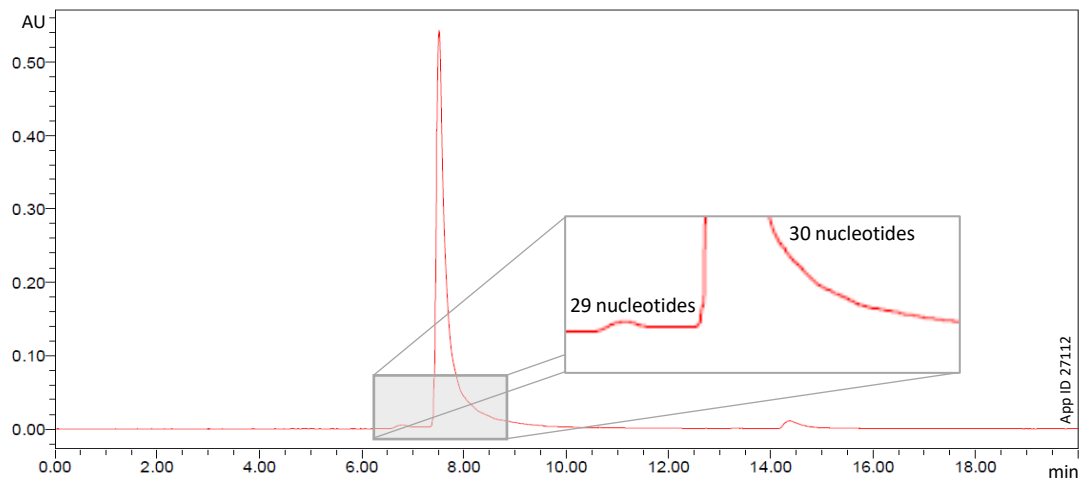


Figure 2. Size Exclusion Analysis of a 30mer Using the Biozen 1.8 μm dSEC-2 Column Demonstrating a Truncation Species (n-1).



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