

Oligonucleotide HPLC Performance Standard Mix, 12 – 33 NT

Well-Qualified Reference Standard for Oligonucleotide Method Development and System Suitability for all chromatographic modes

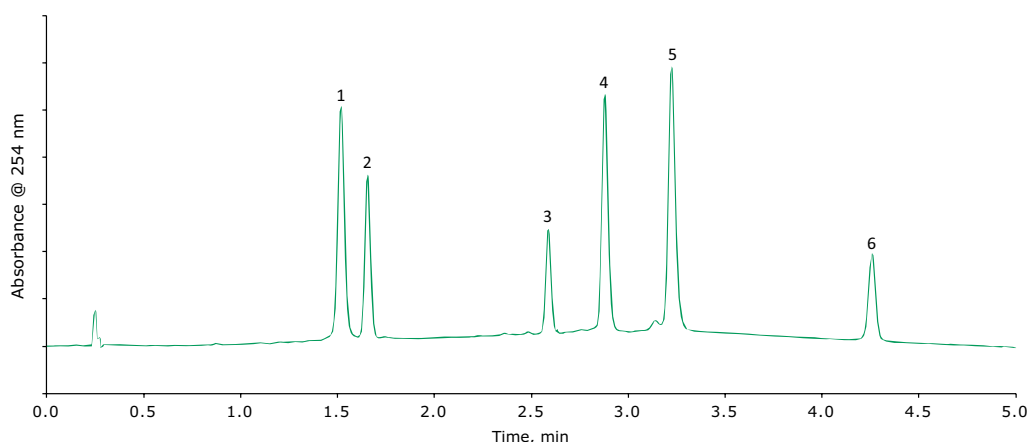
The Oligonucleotide HPLC Performance Standard Mix (Oligo-6) is a calibration standard with carefully selected oligonucleotides to test and monitor changes in HPLC and LC/MS Systems. The differences in the selectivity of the oligonucleotides make it useful for most chromatographic modes including Ion Pairing-Reversed Phase, Ion Exchange and HILIC.

The oligonucleotides in the mix are dried and between 12-33 nucleotides making it a suitable tool to facilitate development and quality control of therapeutics like antisense oligonucleotides, small interfering RNAs, and aptamers.

The Oligonucleotide Performance Standard Mix supports QC chromatographic method development. Based on highly purified oligos, this mix offers the following benefits:

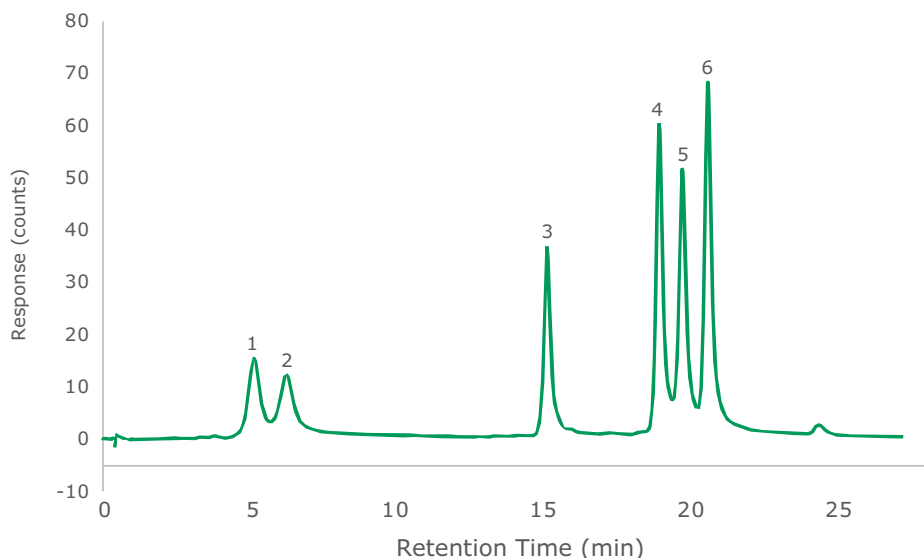
- High lot-to-lot reproducibility
- Different, mixed nucleotide sequences amongst the six oligos, including modifications
- High purity for each oligo offering unambiguous identification

As can be seen in the following chromatograms, exceptional chromatography can be obtained using this mix enabling the analyst to gauge their method efficiency and/or high-performance liquid chromatography (HPLC) column performance.



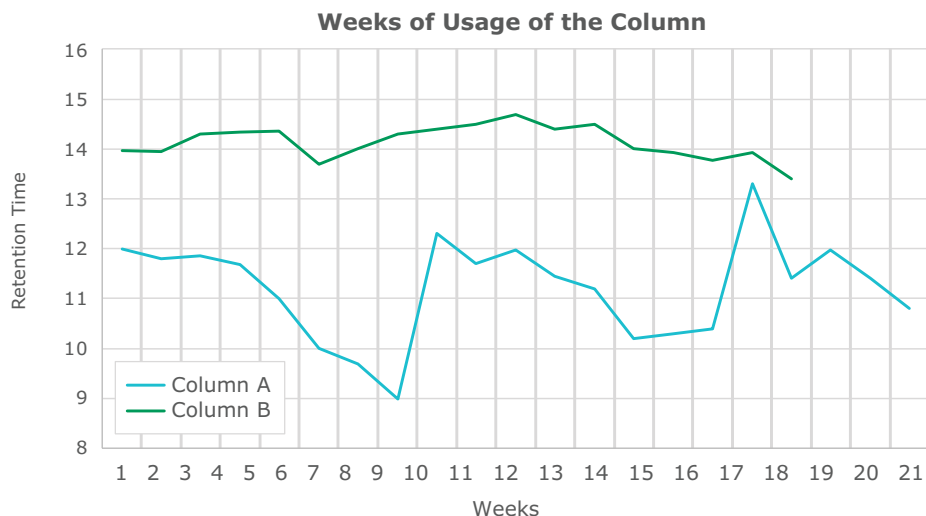
Conditions:
Column: BIOshell™ A120 Oligo C18, 50 x 2.1 mm I.D., 2.7 µm
Mobile Phase: [A] 100 mM TEAA, pH 8.5
[B] Acetonitrile
Gradient: 7.5% to 15% B in 5 min; 15% to 60% B in 0.3 min; hold at 60% B for 0.3 min
Flow Rate: 0.4 mL/min
Column Temp.: 50 °C
Detector: UV, 254 nm
Injection: 1.0 µL
Sample: Oligo Performance Standard, reconstituted in 100 µL water, diluted 1:10 in 10 mM Tris/1 mM EDTA, pH 8.0

Peak Identities:
1. 20 mer
2. 15 mer
3. 25 mer
4. 12 mer (3586 Da)
5. 33 mer
6. 12 mer (4155 Da)



Conditions:
 Column: SeQuant® ZIC-HILIC, 100 x 2.1 mm I.D., 3.5 µm
 Mobile Phase: [A] Acetonitrile; [B] Water; [C] 100 mM Ammonium formate, pH 4.7
 Gradient: 67:13:20 [A]:[B]:[C] for 7 min; 67:13:20 to 51:29:20 in 16 min; 51:29:20 to 37:43:20 in 0.01 min; hold at 37:43:20 for 4 min
 Flow rate: 0.6 mL/min
 Column temp.: 50 °C
 Detector: MSD, ESI (-)
 Injection: 1.0 µL
 Sample: Oligonucleotide Performance Standard resuspended in 20 µL water (40 – 50 nmol/oligo)

Peak Identities:
 1. 12 mer, 4158 Da
 2. 12 mer, 3586 Da
 3. 15 mer
 4. 25 mer
 5. 20 mer
 6. 33 mer



Testing HPLC Column Life Time Monitoring of the life span of two different IE-HPLC columns used in QC with the Oligonucleotide HPLC Performance Mix

The performance is associated with a reduction of the Retention times (RT). When the last peak RT elutes at 9–10 min, the column A was not fit for purpose anymore.

This testing system allowed to quantify the degradation of the columns and show column B to be much superior to column A, with approximately 2.5 times the life length.

Ordering Information

Table Head	Cat. No.
Oligonucleotide HPLC Performance Standard Mix, 12-33 NT	PHR8667-1EA

For more information on other biomolecule reference materials, and to see our complete portfolio of over 20,000 reference materials, please visit SigmaAldrich.com/crm



To place an order or receive technical assistance:
SigmaAldrich.com/support



For local contact information:
SigmaAldrich.com/offices

MilliporeSigma
 400 Summit Drive
 Burlington, MA 01803
SigmaAldrich.com

We have built a unique collection of life science brands with unrivalled experience in supporting your scientific advancements.

Millipore® Sigma-Aldrich® Supelco® Milli-Q® SAFC® BioReliance®

© 2024 Merck KGaA, Darmstadt, Germany and/or its affiliates. All Rights Reserved. MilliporeSigma, the vibrant M, BioReliance, Millipore, Milli-Q, SAFC, Sigma-Aldrich, Supelco, and SeQuant are trademarks of Merck KGaA, Darmstadt, Germany or its affiliates. All other trademarks are the property of their respective owners. Detailed information on trademarks is available via publicly accessible resources.

MS_FL14076EN 59272 10/2024

