FlexFire
HPLC & UHPLC Columns

# Oligonucleotide Analysis With FlexFire WP C18 1.6 µm

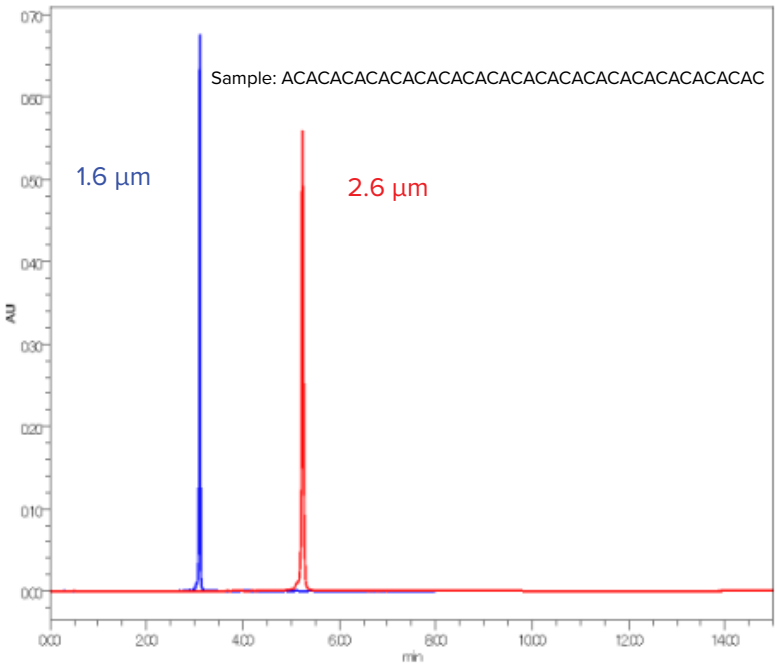
S. Horikiri, Nomura Chemical | 10060 Carroll Canyon Rd, Ste 100, San Diego CA 92131

## ■ Introduction

High resolution chromatography is a necessity to ensure consistent and accurate results. In order to fullfill this need, FlexFire is indroducing the FlexFire Wide Pore (WP) C18 1.6 µm (2.0 x 50 nm) column. The new 1.6 µm particle size offers higher resolution, compared to 2.6 µm particle sizes, while maintaining the great resolution for a 1 base difference in RNA.

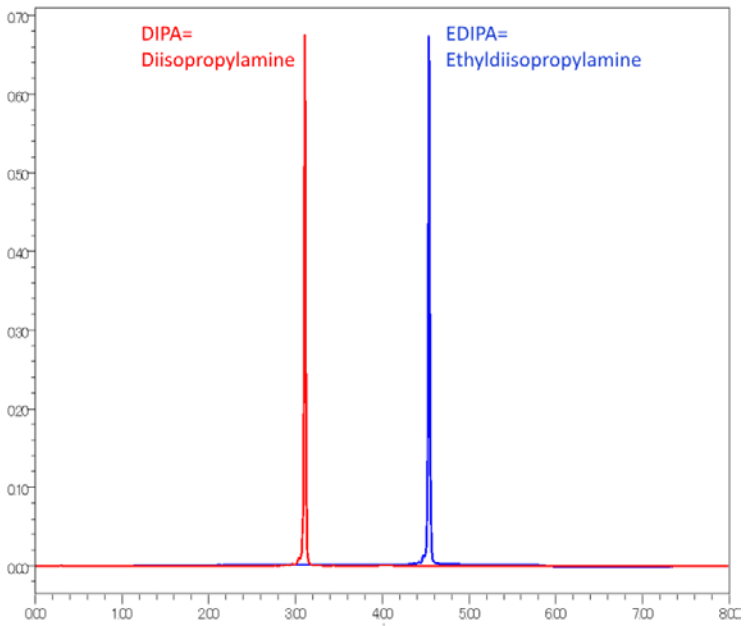
In addition to analysing and displaying a side by side comparison between the FlexFire WP C18 1.6 µm (2.0 x 50 nm) and the FlexFire WP C18 2.6 µm (2.0 x 50 nm), Separation analysis comparing the mobile phase additives of DIPA to EDIPA have been provided.

## ■ Comparison by particle size with FlexFire WP C18 2.6 µm (2.0 x 50 nm)



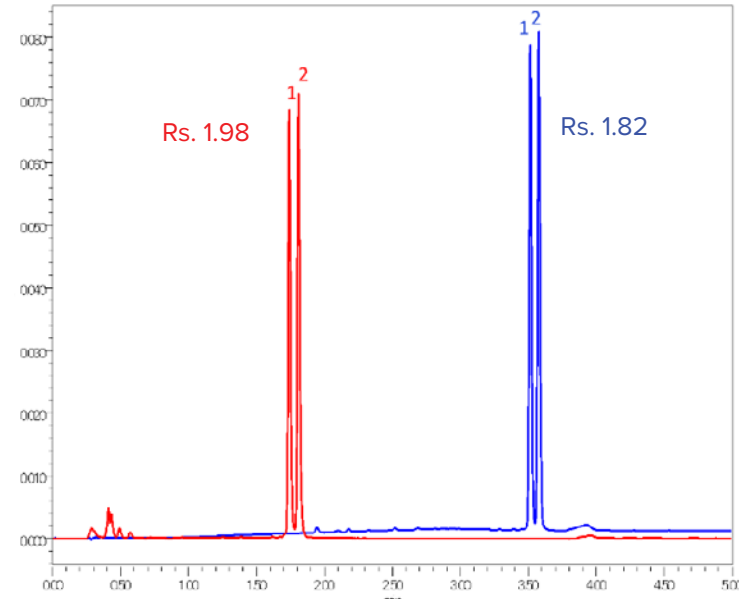

| Analytical Conditions | | | | | |
|---|---|---|---|---|---|
| Column | FlexFire WP C18, 1.6 µm (2.0 x 50 mm)<br>FlexFire WP C18, 2.6 µm (2.0 x 50 mm) | | | | |
| Mobile Phase | A) 100 mM HFIP + 10 mM DIPA<br>B) A/Methanol = 50/50 | | | | |
| Gradient 1.6 µm | min | mL/min | %A | %B | Curve |
| | 0.00 | 0.3 | 80 | 20 | |
| | 5.04 | 0.3 | 40 | 60 | 6 |
| | 5.05 | 0.3 | 80 | 20 | 6 |
| Gradient 2.6 µm | min | mL/min | %A | %B | Curve |
| | 0.00 | 0.3 | 80 | 20 | |
| | 8.40 | 0.3 | 40 | 60 | 6 |
| | 8.42 | 0.3 | 80 | 20 | 6 |
| Temperature | 60 ° C | | | | |
| Detection | UV 260 nm | | | | |
| Sample | 40-mer miRNA | | | | |
| Injection Volume | 1.0 µL | | | | |
| System | Waters ACQUITY UPLC H-Class PLUS | | | | |

## ■ Mobile Phase Additives With WP C18 1.6 µm




| Analytical Conditions | | | | | |
|---|---|---|---|---|---|
| Column | FlexFire WP C18, 1.6 µm (2.0 x 50 mm) | | | | |
| Mobile Phase | A) 100 mM HFIP + 10 mM DIPA | | | | |
| | B) A/Methanol = 50/50 | | | | |
| Mobile Phase | A) 100 mM HFIP + 10 mM EDIPA | | | | |
| | B) A/Methanol = 50/50 | | | | |
| Gradient 1.6 µm | min | mL/min | %A | %B | Curve |
| | 0.00 | 0.3 | 80 | 20 | |
| | 5.04 | 0.3 | 40 | 60 | 6 |
| | 5.05 | 0.3 | 80 | 20 | 6 |
| Temperature | 60 ° C | | | | |
| Detection | UV 260 nm | | | | |
| Sample | 40-mer miRNA | | | | |
| Injection Volume | 1.0 µL | | | | |
| System | Waters ACQUITY UPLC H-Class PLUS | | | | |

## ■ Resolution For a 1 base Difference in RNA




| Analytical Conditions | | | | | |
|---|---|---|---|---|---|
| Column | FlexFire WP C18, 1.6 µm (2.0 x 50 mm) | | | | |
| Mobile Phase | A) 100 mM HFIP + 10 mM DIPA | | | | |
| | B) A/Methanol = 50/50 | | | | |
| Mobile Phase | A) 100 mM HFIP + 10 mM EDIPA | | | | |
| | B) A/Methanol = 50/50 | | | | |
| Gradient 1.6 µm | min | mL/min | %A | %B | Curve |
| | 0.00 | 0.3 | 80 | 20 | |
| | 5.04 | 0.3 | 40 | 60 | 6 |
| | 5.05 | 0.3 | 80 | 20 | 6 |
| Temperature | 60 ° C | | | | |
| Detection | UV 260 nm | | | | |
| Sample | 1: GUACGCGGAAUACUUCGAtt (20mer) | | | | |
| | 2: CGUACGCGCAAUACUUCGAtt (21mer) | | | | |
| Injection Volume | 1.0 µL | | | | |
| System | Waters ACQUITY UPLC H-Class PLUS | | | | |

## ■ Contact Us


**Develosil USA**

10060 Carroll Canyon Rd. Ste. 100
San Diego, CA 92131

Phone: 858-800-2433

Web: https://develosil.us/

**Nomura Chemical Co., Ltd.**

15, Hinode-cho, Set, 489-0004, Japan

Tel: +81-561-48-1853

Fax: +81-561-48-1434

E-mail: info@develosil.net