Achieve FASTER LC with Onyx Monolithic Silica HPLC Columns

- Reduce run times
- Increase throughput
- Rapidly screen dirty or complex samples

Featuring:

New Onyx HD Columns for Increased Efficiency!
**Onyx – Monolithic Silica HPLC Columns**

**Designed for high speed analysis**, the monolithic nature of Onyx columns allows for “dilute-and-shoot” applications, saving scientists valuable sample preparation time.

Onyx columns feature a dense network of macropores that allows viscous samples and mobile phase to flow through the column less restricted than compared to particle-based columns.

**Monolithic Technology vs. Particle-Based Technology**

**Onyx:**
- Monolithic porous silica rod
- **Significantly shorter run times**
  Cut methods by more than half
- **Low backpressures**
  Less stress on system and column
- **High flow rates**
  Due to high porosity
- **No inlet bed settling**
  Increased reliability, reproducibility, and lifetime

**Particle-Based Columns:**
- Individual silica particles
- **High flow resistance**
  Limits ability to shorten run times
- **Increased backpressure**
  Limits life of pumps, seals, and column
- **Reduced throughput**
  Long run times
- **Bed splitting possible**
  Shortens column life & lessens reproducibility

**Interested in learning about other Phenomenex HPLC columns and their benefits?**

Visit ColumnMatch.com

**ColumnMatch.com™**
A reversed phase column screening application that instantly sorts through the available selectivities and finds the right columns for your application. Visit [www.columnmatch.com](http://www.columnmatch.com) to find the perfect column for your needs.
Increase Sample Throughput and Reduce Analysis Time

**Cut run times by more than half!**

Results in 1/4 the time!

- **ADME / DMPK**
  - Wide macropores reduce interference from proteins allowing samples to easily pass through
  - Monolithic structure enables rapid gradients with very short re-equilibration times, resulting in methods less than 4 min
  - Improved flow characteristics of monoliths results in lower sample carryover for complex matrices like urine plasma

- **Food and Beverage**
  - Flow restrictions and overpressures, due to salts, precipitated proteins, and lipids in the sample matrix, are highly unlikely
  - Increase resolving power of very complex food extracts by column coupling
  - Analyze very dilute or low-level analytes by a direct, high-flow injection onto the column

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**Sample Prep:** Human urine sample diluted 1:1 with water. 50 μL injected

**Column:** Onyx Monolithic C18

**Dimensions:** 100 x 4.6 mm

**Part No.:** CH0-7643

**Mobile Phase:**
- A: 0.1 % Formic acid in Water
- B: 0.1 % Formic acid in Acetonitrile

**Gradient:** 5 - 90 % B in 4.0 min

**Flow Rate:** 4.0 mL/min

**Temperature:** 30 °C

**Detection:** LC/MS ESI + (ambient)

**Injection:**
1. Nordiazepam (Diazepam metabolite) (m/z = 271)
2. Diazepam (m/z = 285)

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**Sample:** Multi-grain cereal

**Column:** Onyx Monolithic C18

**Dimensions:** 200 x 4.6 mm (2 - 100 x 4.6 mm columns coupled in series)

**Part No.:** CH0-7643

**Mobile Phase:**
- A: 0.1 % TFA in Water
- B: 0.08 % TFA in Acetonitrile

**Gradient:** 5-70 % B in 15 minutes

**Flow Rate:** 1.0 mL/min

**Temperature:** 30 °C

**Detection:** UV @ 280 nm
Onyx HD – A Higher Efficiency Monolithic Column

Increased Resolution of Steroids with Onyx HD-C18

Onyx C18

Onyx HD-C18

Conditions for all columns:
- Columns: Onyx C18, Onyx HD-C18
- Dimension: 100 x 4.6 mm
- Mobile Phase: A: Water, B: Methanol
- Gradient: Time (min) % B
  - 0: 45
  - 6: 75
  - 6.1: 45
  - 9: 45

Flow Rate: 1.2 mL/min
Temperature: 25 °C
Detection: UV @ 230 nm
Sample:
1. Triamcinolone
2. Esteriol
3. Prednisone
4. Hydrocortisone
5. Cortisone
6. Corticosterone
7. 11-α-Hydroxyprogesterone
8. β-Estradiol
9. 21-α-Hydroxyprogesterone
10. α-Estradiol
11. 17-α-Hydroxyprogesterone
12. Deoxycorticosterone
13. Progesterone
14. Betamethasone Valerate

Increased Performance with Onyx HD-C18

Excellent Batch-to-Batch and Column-to-Column Reproducibility

Column: Onyx HD-C18
Dimension: 100 x 4.6 mm
Part No.: CH0-8611
Mobile Phase: A: Acetonitrile
B: 20 mM NaH$_2$PO$_4$ Buffer (pH 7.6)
Gradient: Time (min) % B
  - 0: B0
  - 1: 55
  - 5: 55

Flow Rate: 1.2 mL/min
Temperature: Ambient
Detection: UV @ 254 nm
Sample:
1. Caffeine
2. Aniline
3. N-Methylaniline
4. 2-Ethylaniline
5. 4-Nitranisole
6. N,N-Dimethylaniline

Phenomenex | WEB: www.phenomenex.com
Ordering Information

Material Characteristics

<table>
<thead>
<tr>
<th>Packing Material</th>
<th>Macropore Size (μm)</th>
<th>Mesopore Size (Å)</th>
<th>Pore Volume (mL/g)</th>
<th>Surface Area (m²/g)</th>
<th>Carbon Load %</th>
<th>Calculated Bonded Phase Coverage (μmole/m²)</th>
<th>End Capping</th>
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<tr>
<td>Onyx Silica</td>
<td>2</td>
<td>130</td>
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Maximum Pressure: 200 Bar; pH Range: 2.0-7.5

*50 x 2.0 mm ID only; enhanced 1.5 μm macropore size for higher efficiencies

Ordering Information

<table>
<thead>
<tr>
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<th>Description</th>
<th>Size (mm)</th>
<th>Price</th>
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<td>CH0-8390</td>
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<td>CH0-8391</td>
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Guard Cartridge System

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<tbody>
<tr>
<td>KJ0-8468</td>
<td>Onyx Monolithic C18 Guard Cartridge Kit (3/pk cartridges + holder)</td>
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<td>Onyx Monolithic C18 Guard Cartridges (3/pk)</td>
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<td>Onyx Monolithic C18 Guard Cartridge Kit (3/pk cartridges + holder)</td>
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<tr>
<td>CH0-8466</td>
<td>Onyx Monolithic C18 Guard Cartridges (3/pk)</td>
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<td>KJ0-7651</td>
<td>Onyx Monolithic C18 Guard Cartridge Kit (3/pk cartridges + holder + wrench)</td>
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Method Validation Kit

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Column Coupler

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<td>A20-7654</td>
<td>Onyx Column Coupler, 0.020 in. ID</td>
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If Onyx analytical columns do not provide at least an equivalent separation as compared to a competing column of the same monolithic characteristics, similar phase, and dimensions, return the column with comparative data within 45 days for a FULL REFUND.