

# Alltech® Alltima™ Introduction



## High-Quality General-Purpose HPLC Columns

- Extensive collection of published applications
- Well suited for microbore applications, stable in popular microbore mobile phases
- Acid and base deactivated symmetrical peaks
- Polymerically bonded and double-endcapped for long column lifetimes
- Analyze acids, bases, and neutrals in one run
- Full range of column dimensions, from microbore to preparative

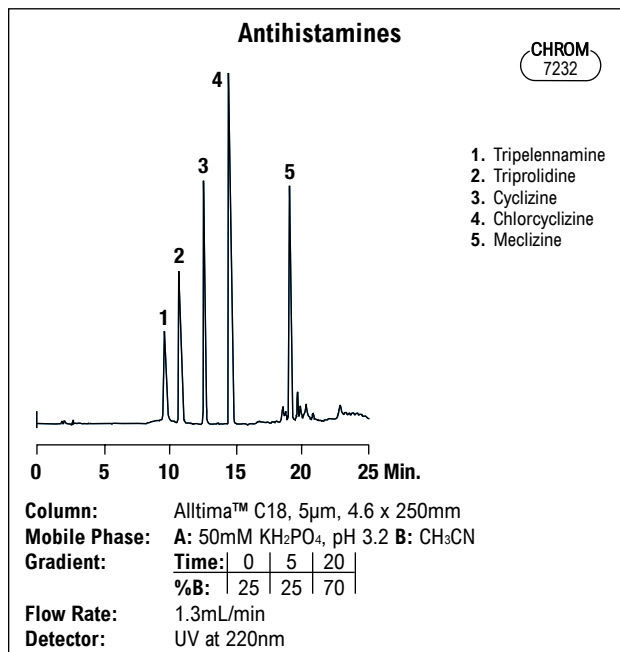
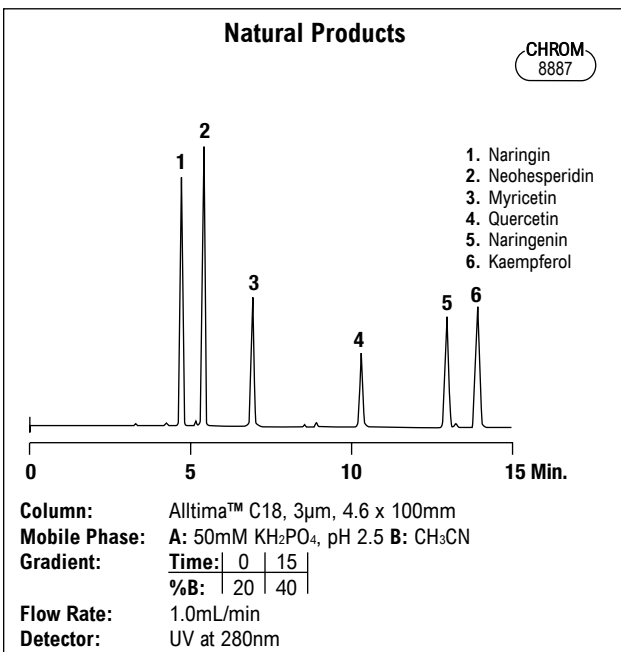
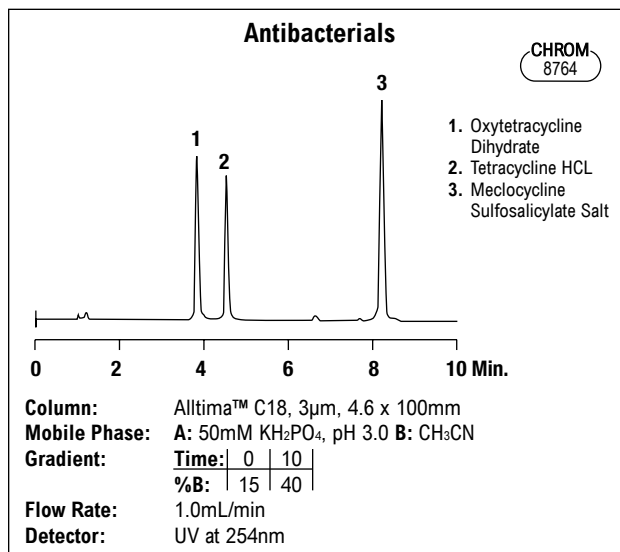
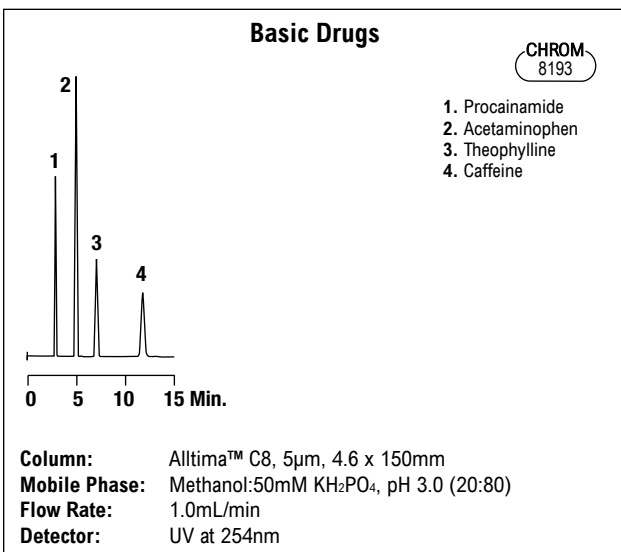
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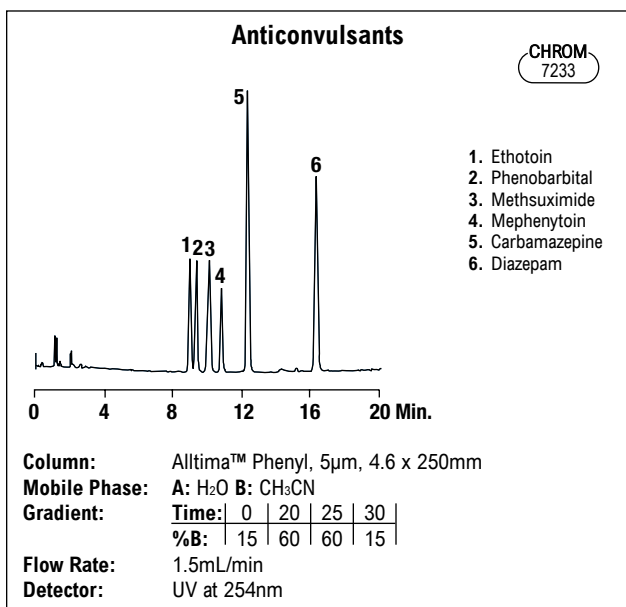
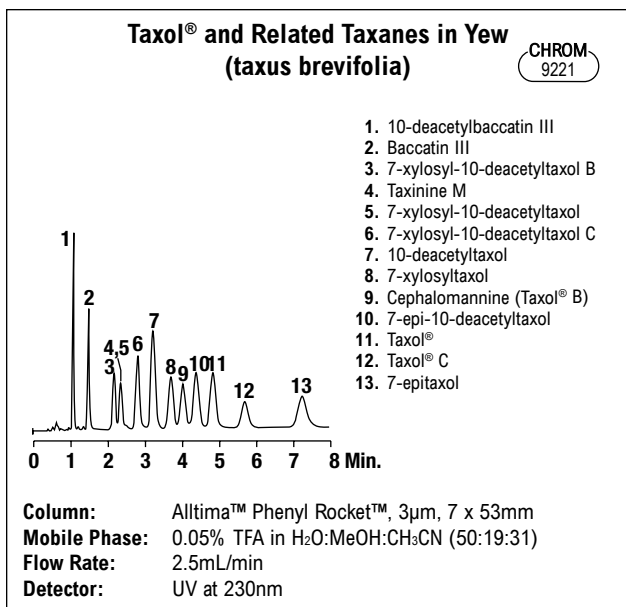
hplc columns | small molecule

### Alltima™ Phase Specifications

| Phase                    | Base Material | Particle Shape | Particle Size | Pore Size | Surface Area         | Carbon Load | Phase Type | Endcapped? | USP L-code |
|--------------------------|---------------|----------------|---------------|-----------|----------------------|-------------|------------|------------|------------|
| C18                      | Silica        | Spherical      | 3, 5, 10µm    | 100Å      | 340m <sup>2</sup> /g | 16%         | Polymeric  | Yes        | L1         |
| C18 LL                   | Silica        | Spherical      | 5µm           | 100Å      | 340m <sup>2</sup> /g | 9%          | Polymeric  | Yes        | L1         |
| C8                       | Silica        | Spherical      | 3, 5, 10µm    | 100Å      | 340m <sup>2</sup> /g | 9%          | Polymeric  | Yes        | L7         |
| Phenyl                   | Silica        | Spherical      | 3, 5µm        | 100Å      | 340m <sup>2</sup> /g | 7.5%        | Polymeric  | Yes        | L11        |
| Cyano                    | Silica        | Spherical      | 3, 5µm        | 100Å      | 340m <sup>2</sup> /g | —           | Polymeric  | Yes        | L10        |
| Amino (NH <sub>2</sub> ) | Silica        | Spherical      | 3, 5µm        | 100Å      | 340m <sup>2</sup> /g | —           | Polymeric  | No         | L8         |
| Silica                   | Silica        | Spherical      | 3, 5, 10µm    | 100Å      | 340m <sup>2</sup> /g | —           | —          | —          | L3         |



# Alltech® Alltima™ Reversed-Phase Columns



**Alltima™ All-Guard™ Cartridges\***

| Packing   | i.d. x Length | Qty. | Part No. |
|---|---------------|------|----------|
| C18, 5µm  | 2.1 x 7.5mm   | 3    | 96680    |
|   | 3.0 x 7.5mm   | 3    | 96361    |
|   | 4.6 x 7.5mm   | 3    | 96080    |
| C18-LL, 5µm   | 2.1 x 7.5mm   | 3    | 96432    |
|   | 4.6 x 7.5mm   | 3    | 96285    |
| C8, 5µm   | 2.1 x 7.5mm   | 3    | 96441    |
|   | 3.0 x 7.5mm   | 3    | 96362    |
|   | 4.6 x 7.5mm   | 3    | 96081    |
| Phenyl, 5µm   | 2.1 x 7.5mm   | 3    | 96442    |
|   | 4.6 x 7.5mm   | 3    | 96082    |
| All-Guard™ Cartridge Holder<br>(Includes Direct-Connect Column Coupler) |               | ea   | 80101    |

\*All-Guard™ holder required. Other particle sizes available.

**Alltima™ HPLC Reversed-Phase Columns**

| Packing     | Format          | i.d. x Length | Standard Part No. | Waters® Fittings Part No. |
|-------------|-----------------|---------------|-------------------|---------------------------|
| C18, 3µm    | Microbore       | 1.0 x 100mm   | 43853             | —                         |
|             | Microbore       | 1.0 x 150mm   | 43864             | —                         |
|             | Expedite™ MS    | 2.1 x 20mm    | 43803             | —                         |
|             | Microbore       | 2.1 x 50mm    | 43849             | —                         |
|             | Microbore       | 2.1 x 100mm   | 43821             | —                         |
|             | Microbore       | 2.1 x 150mm   | 43852             | —                         |
|             | Solvent Reducer | 3.0 x 150mm   | 81143             | —                         |
|             | Expedite™ MS    | 4.6 x 20mm    | 43851             | —                         |
|             | Analytical      | 4.6 x 50mm    | 81412             | —                         |
|             | Analytical      | 4.6 x 100mm   | 81382             | 81383                     |
| C18, 5µm    | Analytical      | 4.6 x 150mm   | 81387             | 81388                     |
|             | Rocket™         | 7 x 33mm      | 50603             | —                         |
|             | Rocket™         | 7 x 53mm      | 50605             | —                         |
|             | Microbore       | 1.0 x 150mm   | 88384             | —                         |
|             | Microbore       | 1.0 x 250mm   | 88385             | —                         |
|             | Microbore       | 2.1 x 150mm   | 88370             | —                         |
|             | Microbore       | 2.1 x 250mm   | 88371             | —                         |
|             | Solvent Reducer | 3.0 x 150mm   | 81140             | —                         |
|             | Solvent Reducer | 3.0 x 250mm   | 81142             | —                         |
|             | Analytical      | 4.6 x 150mm   | 88052             | 88053                     |
| C18, 10µm   | Analytical      | 4.6 x 250mm   | 88056             | 88057                     |
|             | Analytical      | 4.6 x 250mm   | 88307             | 88308                     |
| C18-LL, 5µm | Microbore       | 1.0 x 150mm   | 88390             | —                         |
|             | Microbore       | 1.0 x 250mm   | 88391             | —                         |
|             | Microbore       | 2.1 x 150mm   | 88388             | —                         |
|             | Microbore       | 2.1 x 250mm   | 88389             | —                         |
|             | Analytical      | 4.6 x 150mm   | 88069             | —                         |
|             | Analytical      | 4.6 x 250mm   | 88099             | —                         |
| C8, 3µm     | Analytical      | 4.6 x 50mm    | 81413             | —                         |
|             | Analytical      | 4.6 x 100mm   | 81392             | 81393                     |
|             | Analytical      | 4.6 x 150mm   | 81397             | 81398                     |
|             | Rocket™         | 7 x 53mm      | 50609             | —                         |
| C8, 5µm     | Microbore       | 1.0 x 150mm   | 88394             | —                         |
|             | Microbore       | 1.0 x 250mm   | 88395             | —                         |
|             | Microbore       | 2.1 x 150mm   | 88372             | —                         |
|             | Microbore       | 2.1 x 250mm   | 88373             | —                         |
|             | Solvent Reducer | 3.0 x 150mm   | 81146             | —                         |
|             | Analytical      | 4.6 x 150mm   | 88072             | 88073                     |
| C8, 10µm    | Analytical      | 4.6 x 250mm   | 88076             | 88077                     |
|             | Analytical      | 4.6 x 250mm   | 88317             | 88318                     |
| Phenyl, 3µm | Microbore       | 1.0 x 100mm   | 43892             | —                         |
|             | Microbore       | 1.0 x 150mm   | 43854             | —                         |
|             | Microbore       | 2.1 x 150mm   | 43813             | —                         |
|             | Analytical      | 4.6 x 50mm    | 81178             | —                         |
| Phenyl, 5µm | Analytical      | 4.6 x 100mm   | 81181             | 88184                     |
|             | Analytical      | 4.6 x 150mm   | 81188             | 81191                     |
|             | Solvent Reducer | 3.0 x 150mm   | 81147             | —                         |
| Phenyl, 5µm | Analytical      | 4.6 x 150mm   | 88087             | 88088                     |
|             | Analytical      | 4.6 x 250mm   | 88092             | 88093                     |

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# Alltech® Alltima™ C18 Validation Kits

Alltima™ columns have the batch-to-batch and column-to-column reproducibility required for method development. Each kit includes three columns made from three different batches of Alltima™ C18.

### Alltima™ C18 Validation Kits

| Description | Includes:                          | i.d. x Length | Part No.     |
|-------------|------------------------------------|---------------|--------------|
| C18, 3µm    | 3 columns from 3 different batches | 4.6 x 100mm   | <b>11350</b> |
| C18, 5µm    | 3 columns from 3 different batches | 4.6 x 150mm   | <b>11541</b> |
| C18, 5µm    | 3 columns from 3 different batches | 4.6 x 250mm   | <b>11543</b> |

# Alltech® Alltima™ Normal-Phase Columns

### Alltima™ HPLC Normal-Phase Columns

| Packing      | Format     | i.d. x Length | Standard Part No. | Waters® Fittings Part No. |
|--------------|------------|---------------|-------------------|---------------------------|
| Cyano, 3µm   | Analytical | 4.6 x 50mm    | <b>81179</b>      | —                         |
|              | Analytical | 4.6 x 100mm   | <b>81182</b>      | —                         |
|              | Analytical | 4.6 x 150mm   | <b>81189</b>      | <b>81192</b>              |
| Cyano, 5µm   | Analytical | 4.6 x 150mm   | <b>88180</b>      | <b>88182</b>              |
|              | Analytical | 4.6 x 250mm   | <b>88189</b>      | <b>88191</b>              |
| Amino, 3µm   | Analytical | 4.6 x 50mm    | <b>81180</b>      | —                         |
|              | Analytical | 4.6 x 100mm   | <b>81183</b>      | —                         |
|              | Analytical | 4.6 x 150mm   | <b>81190</b>      | —                         |
| Amino, 5µm   | Analytical | 4.6 x 150mm   | <b>88205</b>      | —                         |
|              | Analytical | 4.6 x 250mm   | <b>88217</b>      | <b>88218</b>              |
| Silica, 3µm  | Microbore  | 1.0 x 100mm   | <b>43824</b>      | —                         |
|              | Microbore  | 1.0 x 150mm   | <b>43855</b>      | —                         |
|              | Microbore  | 2.1 x 150mm   | <b>43884</b>      | —                         |
|              | Analytical | 4.6 x 50mm    | <b>81414</b>      | —                         |
|              | Analytical | 4.6 x 100mm   | <b>81404</b>      | <b>81405</b>              |
| Silica, 5µm  | Analytical | 4.6 x 150mm   | <b>81409</b>      | <b>81410</b>              |
|              | Analytical | 4.6 x 250mm   | <b>88123</b>      | <b>88124</b>              |
| Silica, 10µm | Analytical | 4.6 x 250mm   | <b>88327</b>      | —                         |

### Alltima™ All-Guard™ Cartridges\*

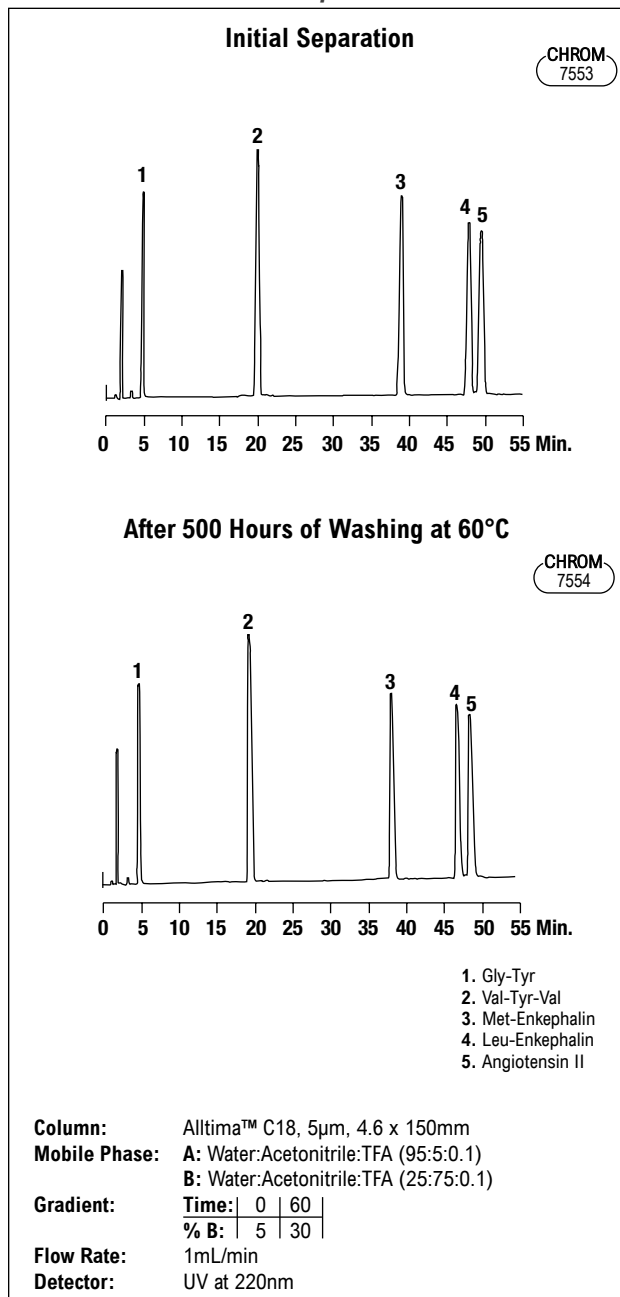
| Packing     | i.d. x Length | Qty. | Part No.     |
|-------------|---------------|------|--------------|
| Cyano, 5µm  | 4.6 x 7.5mm   | 3    | <b>96084</b> |
| Amino, 5µm  | 4.6 x 7.5mm   | 3    | <b>96085</b> |
| Silica, 5µm | 2.1 x 7.5mm   | 3    | <b>96450</b> |
|             | 4.6 x 7.5mm   | 3    | <b>96083</b> |

All-Guard™ Cartridge Holder

(Includes Direct-Connect Column Coupler)

\*All-Guard™ holder required. Other particle sizes available.

### Alltima™ is Stable and Reproducible



Column capacity and selectivity remained constant after washing an Alltima™ C18 column for 500 hours with 0.5% TFA:Acetonitrile (50:50) at 60°C.

### tech tip

Want high throughput on a conventional (non-ultra high-pressure) system?

Choose the Rocket™ column format—no modifications necessary to your existing HPLC system. Choose Expedite™ columns for low volume and microbore systems. See page 31 for more explanation of the Rocket™ and Expedite™ formats.

# Alltech® Prep Columns

- Packed with identical media to analytical columns
- Additional dimensions may be custom ordered

## Econosphere™ Columns

| Packing      | Format        | i.d. x Length | Part No.     |
|--------------|---------------|---------------|--------------|
| C18, 10µm    | Prep—Threaded | 10 x 100mm    | <b>28157</b> |
|              | Prep—Threaded | 10 x 250mm    | <b>28085</b> |
|              | Prep—Threaded | 22 x 250mm    | <b>28001</b> |
| C8, 10µm     | Prep—Threaded | 10 x 100mm    | <b>28159</b> |
|              | Prep—Threaded | 10 x 250mm    | <b>28087</b> |
|              | Prep—Threaded | 22 x 250mm    | <b>28003</b> |
| Silica, 10µm | Prep—Threaded | 10 x 100mm    | <b>28167</b> |
|              | Prep—Threaded | 10 x 250mm    | <b>28095</b> |
|              | Prep—Threaded | 22 x 250mm    | <b>28057</b> |

## Macrosphere™ Columns

| Packing  | Format        | i.d. x Length | Part No.     |
|----------|---------------|---------------|--------------|
| GPC 60Å  | Prep—Threaded | 7.5 x 300mm   | <b>88175</b> |
| GPC 100Å | Prep—Threaded | 7.5 x 300mm   | <b>88177</b> |
| GPC 150Å | Prep—Threaded | 7.5 x 300mm   | <b>88179</b> |
| GPC 300Å | Prep—Threaded | 7.5 x 300mm   | <b>88181</b> |

## Alltima™ Columns

| Packing      | Format        | i.d. x Length | Part No.     |
|--------------|---------------|---------------|--------------|
| C18, 5µm     | Prep—Threaded | 10 x 150mm    | <b>81102</b> |
|              | Prep—Threaded | 10 x 250mm    | <b>88063</b> |
|              | Prep—Threaded | 22 x 150mm    | <b>81106</b> |
|              | Prep—Threaded | 22 x 250mm    | <b>81105</b> |
|              | Prep—Threaded | 22 x 250mm    | <b>81107</b> |
| C18, 10µm    | Prep—Threaded | 10 x 150mm    | <b>81107</b> |
|              | Prep—Threaded | 10 x 250mm    | <b>88334</b> |
|              | Prep—Threaded | 22 x 150mm    | <b>81108</b> |
|              | Prep—Threaded | 22 x 250mm    | <b>88335</b> |
| C8, 5µm      | Prep—Threaded | 10 x 150mm    | <b>81109</b> |
|              | Prep—Threaded | 10 x 250mm    | <b>88081</b> |
|              | Prep—Threaded | 22 x 150mm    | <b>81112</b> |
|              | Prep—Threaded | 22 x 250mm    | <b>81110</b> |
| C8, 10µm     | Prep—Threaded | 10 x 150mm    | <b>81114</b> |
|              | Prep—Threaded | 10 x 250mm    | <b>88336</b> |
|              | Prep—Threaded | 22 x 150mm    | <b>81115</b> |
|              | Prep—Threaded | 22 x 250mm    | <b>88337</b> |
|              | Prep—Threaded | 22 x 250mm    | <b>81118</b> |
| Silica, 5µm  | Prep—Threaded | 10 x 150mm    | <b>81117</b> |
|              | Prep—Threaded | 10 x 250mm    | <b>81116</b> |
|              | Prep—Threaded | 22 x 150mm    | <b>81119</b> |
|              | Prep—Threaded | 22 x 250mm    | <b>81118</b> |
| Silica, 10µm | Prep—Threaded | 10 x 150mm    | <b>81121</b> |
|              | Prep—Threaded | 10 x 250mm    | <b>88338</b> |
|              | Prep—Threaded | 22 x 150mm    | <b>81125</b> |
|              | Prep—Threaded | 22 x 250mm    | <b>88339</b> |

## Platinum™ Columns

| Packing      | Format        | i.d. x Length | Part No.     |
|--------------|---------------|---------------|--------------|
| EPS C18, 5µm | Prep—Threaded | 10 x 150mm    | <b>82083</b> |
|              | Prep—Threaded | 22 x 150mm    | <b>82093</b> |
|              | Prep—Threaded | 22 x 250mm    | <b>82095</b> |

## Prosphere™ HP

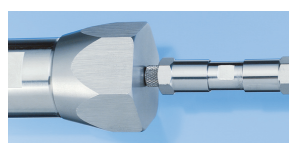
| Packing     | Format        | i.d. x Length | Part No.     |
|-------------|---------------|---------------|--------------|
| C18-AQ, 5µm | Prep—Threaded | 10 x 100mm    | <b>35572</b> |
|             | Prep—Threaded | 22 x 100mm    | <b>35573</b> |

## Apollo™ Columns

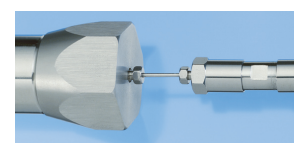
| Packing     | Format        | i.d. x Length | Part No.     |
|-------------|---------------|---------------|--------------|
| C18, 5µm    | Prep—Threaded | 7 x 150mm     | <b>36530</b> |
|             | Prep—Threaded | 10 x 150mm    | <b>36531</b> |
|             | Prep—Threaded | 10 x 250mm    | <b>36543</b> |
|             | Prep—Threaded | 22 x 150mm    | <b>36526</b> |
|             | Prep—Threaded | 22 x 250mm    | <b>36537</b> |
| C8, 5µm     | Prep—Threaded | 7 x 150mm     | <b>36546</b> |
|             | Prep—Threaded | 10 x 150mm    | <b>36548</b> |
|             | Prep—Threaded | 10 x 250mm    | <b>36549</b> |
|             | Prep—Threaded | 22 x 150mm    | <b>36550</b> |
|             | Prep—Threaded | 22 x 250mm    | <b>36551</b> |
| Phenyl, 5µm | Prep—Threaded | 7 x 150mm     | <b>36525</b> |
|             | Prep—Threaded | 10 x 150mm    | <b>36527</b> |
|             | Prep—Threaded | 10 x 250mm    | <b>36532</b> |
|             | Prep—Threaded | 22 x 150mm    | <b>36535</b> |
|             | Prep—Threaded | 22 x 250mm    | <b>36528</b> |
| Silica, 5µm | Prep—Threaded | 7 x 150mm     | <b>36542</b> |
|             | Prep—Threaded | 10 x 150mm    | <b>36533</b> |
|             | Prep—Threaded | 10 x 250mm    | <b>36540</b> |
|             | Prep—Threaded | 22 x 150mm    | <b>36534</b> |
|             | Prep—Threaded | 22 x 250mm    | <b>36524</b> |

## Prevail™ Columns

| Packing              | Format        | i.d. x Length | Part No.     |
|----------------------|---------------|---------------|--------------|
| Carbohydrate ES, 5µm | Prep—Threaded | 10 x 250mm    | <b>35115</b> |
|                      | Prep—Threaded | 20 x 300mm    | <b>35215</b> |
| C18, 5µm             | Prep—Threaded | 10 x 150mm    | <b>99293</b> |
|                      | Prep—Threaded | 10 x 250mm    | <b>99294</b> |
|                      | Prep—Threaded | 22 x 150mm    | <b>99296</b> |
|                      | Prep—Threaded | 22 x 250mm    | <b>99297</b> |



Connect with Direct-Connect™ Coupler.



Connect In-Line with Fittings and Tubing.

## Prep-Guard™ Accessories

| Description                    | Part No.     |
|--------------------------------|--------------|
| Direct-Connect™ Column Coupler | <b>28195</b> |
| In-Line Connector              | <b>9549</b>  |

## Alltech® Prep Guards™

| Packing                    | Format      | i.d. x Length | Part No.      |
|----------------------------|-------------|---------------|---------------|
| <i>Econosphere™ Guards</i> |             |               |               |
| C18, 10µm                  | Prep—Guard™ | 7 x 33mm      | <b>970209</b> |
| Silica, 10µm               | Prep—Guard™ | 7 x 33mm      | <b>970210</b> |
| <i>Alltima™ Guards</i>     |             |               |               |
| C18, 10µm                  | Prep—Guard™ | 7 x 33mm      | <b>970203</b> |
| C8, 10µm                   | Prep—Guard™ | 7 x 33mm      | <b>970227</b> |
| Silica, 10µm               | Prep—Guard™ | 7 x 33mm      | <b>970204</b> |
| <i>Platinum™ Guard</i>     |             |               |               |
| EPS C18, 5µm               | Prep—Guard™ | 7 x 33mm      | <b>970216</b> |
| <i>Apollo™ Guards</i>      |             |               |               |
| C18, 5µm                   | Prep—Guard™ | 7 x 33mm      | <b>970205</b> |
| C8, 5µm                    | Prep—Guard™ | 7 x 33mm      | <b>96463</b>  |
| Phenyl, 5µm                | Prep—Guard™ | 7 x 33mm      | <b>96430</b>  |
| Silica, 5µm                | Prep—Guard™ | 7 x 33mm      | <b>970206</b> |
| <i>Prevail™ Guards</i>     |             |               |               |
| C18, 5µm                   | Prep—Guard™ | 7 x 33mm      | <b>970211</b> |

## related products

Please refer to pages 44–49, 54–57, and 96–97 for more information on media characteristics and analytical column offerings.