HPLC Columns Designed for analysis of Sulfa drugs

Inertsil® Sulfa C18

Analysis of antibiotic drugs and drug residues in products of animal origin has become an important element of ensuring food safety.

Inertsil® Sulfa C18 is suitable not only for the analyses of sulfa drugs but also for the screening of synthetic antibacterial agents which are directed in the food safety investigative guideline.

Each batch of Inertsil® Sulfa C18 is tested for the effective separation of sulfa drugs, as shown below, and is provided with a copy of the chromatogram.

**Analysis of 15 sulfa reagents**

<table>
<thead>
<tr>
<th>System</th>
<th>GL-7400 HPLC system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Column</td>
<td>Inertsil Sulfa C18 (3 μm, 150 x 4.6 mm I.D.)</td>
</tr>
</tbody>
</table>
| Eluent          | A) CH₃CN/CH₃COOH = 777.66/3.15, w/w  
                 | B) CH₃COOH/H₂O = 3.15/997 , w/w  
                 | A/B = 0/100 -33min- 33/67 -3min- 90/10 -4min-90/10 |
| Flow rate       | 1.0 mL/min          |
| Col. Temp.      | 40 °C               |
| Detection       | UV 270 nm           |
| Injection Vol.  | 10 μL               |

1: Sulfanilamide  
2: Sulfacetamide  
3: Sulfadiazine  
4: Sulfathiazole  
5: Sulpyridine  
6: Sulfameradine  
7: Sulfacymidine  
8: Sulfamethoxypyridazine  
9: Sulfadimethoxine  
10: Sulfaclorpyridazine  
11: Sulfamethoxazole  
12: Sulfa benzamid  
13: Sulfadimethoxine  
14: Sulfaquinoxaline  
15: Sulfanitran  

(each 1ppm)

ISO14001: Save Energy and Resources!!
Antibacterial agents including sulfa drugs consist of polar functional groups which can cause adsorption on the packing material.

Sulfaquinoxaline [59-40-5]  
Sulfamethoxazole [723-46-6]

oxolinic acid [14698-29-4]  
Pyrimethamine [58-14-0]

High inertness to basic and acidic compounds enables Inertsil Sulfa C18 to effectively analyze antibacterial agents.
Analyses of Antibacterial Agents directed in the
Food Sanitation Investigation Guideline

Standard Reagent Ⅰ
1: Clopidol 5ppm  3: Sulfamonomethoxine 3ppm
2: Sulfamerazine 2ppm  4: Oxolinic Acid 2ppm
Morantel Citrate 5ppm  5: Sulfadimethoxine 3ppm

Standard Reagent Ⅱ
1: Trimethoprim 5ppm  5: Pyrimethamine 5ppm
2: Ometoprim 5ppm  6: Difurazone 10ppm
3: Carbadox 2ppm  7: Nalidixic Acid 3ppm
4: Thiamphenicol 5ppm

Standard Reagent Ⅲ
1: Olaquindox 3ppm  4: Sulfamicunoxaline 3ppm
2: Sulfacymedine 2ppm  5: Piromidic Acid 2ppm
3: Furazolidone 3ppm  6: Nicarbazin 3ppm

HPLC Conditions
System: GL-7400 HPLC system
Column: Inertsil Sulf a C18 (3 μm, 150 x 4.6 mm I.D.)
Eluent: A) CH3CN/H2O /CH3COOH = 10/90/0.3, v/v/v
B) CH3CN/H2O /CH3COOH = 60/40/0.3, v/v/v
A/B = 100/0 -10 min- 0/100 -10 min- 0/100
Flow rate: 1.0 mL/min
Col. Temp.: 40 °C
Detection: UV 265 nm
Injection Vol.: 10 μL

Column Ordering Information

<table>
<thead>
<tr>
<th>Packing Size</th>
<th>I.D.(mm)</th>
<th>2.1</th>
<th>3.0</th>
<th>4.0</th>
<th>4.6</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0 mm</td>
<td>100</td>
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<td>IN5020-07514</td>
<td>IN5020-07524</td>
<td>IN5020-07534</td>
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<td>150</td>
<td>IN5020-07505</td>
<td>IN5020-07515</td>
<td>IN5020-07525</td>
<td>IN5020-07535</td>
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<tr>
<td>5.0 mm</td>
<td>150</td>
<td>IN5020-07545</td>
<td>IN5020-07555</td>
<td>IN5020-07565</td>
<td>IN5020-07575</td>
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<td>IN5020-07556</td>
<td>IN5020-07566</td>
<td>IN5020-07576</td>
</tr>
</tbody>
</table>

End-fitting is Waters 1/16" type.  * For other column sizes, please give us an enquiry. (Upon request)

Cartridge Guard Column E

<table>
<thead>
<tr>
<th>Analytical Column I.D. mm Size</th>
<th>Guard Column I.D. mm Size</th>
<th>Guard Column Length mm Size</th>
<th>Cartridge Guard Column E (2EA./Set)</th>
<th>Cartridge Guard Column E Holder Set (2 Cartridges &amp; 1 Holder)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 mm</td>
<td>3.0 mm</td>
<td>10 mm</td>
<td>IN5020-08515</td>
<td>IN5020-08525</td>
</tr>
<tr>
<td>3.0 mm</td>
<td>2.0 mm</td>
<td>20 mm</td>
<td>IN5020-08565</td>
<td>IN5020-08575</td>
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<tr>
<td>4.0 mm</td>
<td>4.0 mm</td>
<td>10 mm</td>
<td>IN5020-08510</td>
<td>IN5020-08520</td>
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<tr>
<td>4.6 mm</td>
<td></td>
<td>20 mm</td>
<td>IN5020-08560</td>
<td>IN5020-08570</td>
</tr>
</tbody>
</table>

* When ordering, please specify the packing material and the particle size.
* Only Waters 1/16" end-fitting type is compatible for our Cartridge Guard Column E.
* Conventional Guard Columns and GL-Cart Guard Columns are also available. For more information, please feel free to contact us.

● The specification and the column type are subject to change without notice due to continual improvements.
● All brand names and product names are trademarks or registered trademarks of GL Sciences Inc.

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