All Matrix Interferences Resolved

How often are matrix interferences affecting your EtG/EtS analysis? Restek's EtG/EtS solution consistently resolves analytes away from matrix interferences in a fast, 4-minute, dilute-and-shoot method.
Raptor EtG/EtS Column

- Proven performance for accurate, reliable ethyl glucuronide (EtG) and ethyl sulfate (EtS) analysis.
- Strong retention consistently resolves analytes from matrix interferences.
- Long column lifetime ensures consistent performance injection after injection.
- Fast, 4-minute, dilute-and-shoot LC-MS/MS analysis supports high sample throughput.

Switch to a Raptor EtG/EtS column when you need consistent resolution of EtG and EtS from matrix interferences and long column lifetimes.

Order yours today at www.restek.com/raptor

Column Description

Pore Size:
90 Å

Particle:
2.7 µm superficially porous silica (SPP or "core-shell")

Surface Area:
130 m²/g

End-Cap:
Proprietary

Carbon Load:
Proprietary

USP Phase Code:
NA

Phase Category:
Proprietary

Ligand Type:
Proprietary

Recommended Usage:
pH Range: 2.0–8.0
Maximum Temperature: 80 °C
Maximum Pressure: 600 bar/8,700 psi

Properties:
- Resolution of EtG and EtS from matrix interferences.
- Increased retention of EtG and EtS compared to traditional phases.

Switch to a Raptor EtG/EtS when:
- Other columns can’t resolve EtG and EtS from matrix components.
- You need high-throughput EtG/EtS analysis.
- Low-level detection limits are desired.

Part of Restek’s Raptor LC column line featuring SPP core-shell silica:
- Higher efficiency and resolution for drastically faster analysis times.
- Increased sample throughput with existing HPLC instrumentation
- Long-lasting ruggedness for dependable reproducibility.
Definitive Results for Alcohol Monitoring

Restek has developed a new Raptor column that significantly improves EtG and EtS analysis for alcohol monitoring programs. The Raptor EtG/EtS column consistently retains and resolves these important biomarkers from matrix interferences, providing accurate, reliable results injection after injection (Figure 1). Dependable performance, a fast 4-minute analysis, and long column lifetime make this column ideal for high-throughput labs. Paired with our quality reference standards and the optimized, validated method shown below, Restek’s Raptor EtG/EtS column is part of a complete solution that will help testing labs save time and increase certainty.

![Figure 1](image-url)

**Figure 1**: Rugged Raptor EtG/EtS columns provide complete resolution and consistent results even after 1,000 injections, allowing more samples to be analyzed between column changes.

<table>
<thead>
<tr>
<th>Peaks</th>
<th>Precursor Ion</th>
<th>Product Ion 1</th>
<th>Product Ion 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ethyl-β-D-glucuronide-d5</td>
<td>225.9</td>
<td>84.9</td>
<td>-</td>
</tr>
<tr>
<td>2. Ethyl-β-D-glucuronide</td>
<td>220.8</td>
<td>84.9</td>
<td>74.8</td>
</tr>
<tr>
<td>3. Ethyl sulfate-d5</td>
<td>129.7</td>
<td>97.7</td>
<td>-</td>
</tr>
<tr>
<td>4. Ethyl sulfate</td>
<td>124.7</td>
<td>96.8</td>
<td>79.7</td>
</tr>
</tbody>
</table>

Column: Raptor EtG/EtS (cat.# 9325A12); Dimensions: 100 mm x 2.1 mm ID, Particle Size: 2.7 µm; Guard Column: UltraShield UHPLC precolumn filter, 0.2 µm frit (cat.# 25809); Temp.: 35 °C; Sample: A 500 ng/mL QC sample was prepared in urine. 50 µL of the sample was diluted with 950 µL of a working internal standard (25 ng/mL EtS-d5/100 ng/mL EtG-d5 in 0.1% formic acid in water). The sample was vortexed at 3,500 rpm for 10 seconds to mix. The sample was then centrifuged at 3,000 rpm for 5 minutes at 10 °C. The autosampler needle was adjusted to inject from the supernatant. Inj. Vol.: 10 µL; Mobile Phase: A: 0.1% Formic acid in water; B: 0.1% Formic acid in acetonitrile; Gradient (%) 0.00 min (5% B), 2.50 min (35% B), 2.51 min (5% B), 4.00 (5% B); Flow: 0.5 mL/min; Detector: MS/MS; Ion Mode: ESI-; Mode: MRM; Instrument: HPLC. Notes: The following reference standards were used: ethyl-β-D-glucuronide (cat.# 34101), ethyl-β-D-glucuronide-d5 (cat.# 34102), ethyl sulfate sodium salt (cat.# 34103), ethyl sulfate-d5 sodium salt (cat.# 34104).
Struggling with EtG/EtS matrix interferences? Here’s your solution!

Raptor EtG/EtS LC Column

- Proven performance for accurate, reliable ethyl glucuronide (EtG) and ethyl sulfate (EtS) analysis.
- Strong retention consistently resolves analytes from matrix interferences.
- Long column lifetime ensures consistent performance injection after injection.
- Fast, 4-minute, dilute-and-shoot LC-MS/MS analysis supports high sample throughput.

UltraShield UHPLC PreColumn Filter

- Cost-effective protection for UHPLC systems.
- Reliable way to extend column lifetime.
- Universal fit—connects easily to any brand column.
- Leaktight to 15,000 psi (1,034 bar).
- 0.5 µm or 0.2 µm stainless steel frit in a stainless steel body with PEEK ferrule.

EtG and EtS Standards

- Alcohol metabolite biomarkers for monitoring alcohol consumption in urine samples.
- Available as unlabeled standards for instrument calibration and as deuterated internal standards for sample analysis.
- Verified composition and stability.
- Pair with Restek's definitive EtG/EtS method and Raptor EtG/EtS LC column for accurate, reliable results.

<table>
<thead>
<tr>
<th>Description</th>
<th>Filter Porosity</th>
<th>qty.</th>
<th>cat.#</th>
</tr>
</thead>
<tbody>
<tr>
<td>UltraShield UHPLC PreColumn Filter</td>
<td>0.2 µm frit</td>
<td>ea.</td>
<td>25809</td>
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<td>5-pk.</td>
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<td>25810</td>
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<td>10-pk.</td>
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<th>Description</th>
<th>Filter Porosity</th>
<th>qty.</th>
<th>cat.#</th>
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</thead>
<tbody>
<tr>
<td>Ethyl-β-D-glucuronide (EtG)</td>
<td>2.7 µm Columns</td>
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<td>9325A12</td>
</tr>
<tr>
<td>Ethyl sulfate sodium salt (EtS)</td>
<td>100 mm, 2.1 mm ID</td>
<td></td>
<td>9325A12</td>
</tr>
</tbody>
</table>

Experience *Selectivity Accelerated.* Order the Raptor EtG/EtS today at [www.restek.com/raptor](http://www.restek.com/raptor)

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