Bile Acids from Urine

Determination of Chenodeoxycholic acid (CDCA) (bile acid) in human urine using ANP (inverse gradient)

Method Conditions

Column: Cogent Diamond Hydride™ 4µm, 100Å.
Catalog No.: 70000-15P-2
Dimensions: 2.1 x 150 mm
Solvents: A: DI water + 0.1% formic acid
B: acetonitrile + 0.1% formic acid
Mobile phase: Gradient

<table>
<thead>
<tr>
<th>Time</th>
<th>%B</th>
<th>Time</th>
<th>%B</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>95</td>
<td>10.0</td>
<td>50</td>
</tr>
<tr>
<td>0.2</td>
<td>95</td>
<td>11.0</td>
<td>50</td>
</tr>
<tr>
<td>7.0</td>
<td>85</td>
<td>11.1</td>
<td>95</td>
</tr>
<tr>
<td>8.0</td>
<td>85</td>
<td>14.0</td>
<td>95</td>
</tr>
<tr>
<td>$t_0$ = 1.44 min</td>
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</tbody>
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Flow rate: 0.4 mL/min.
Sample: Human urine – after simple extraction
Analyte: Chenodeoxycholic acid 393.29994 m/z (M+H)+, RT = 6.26 min

Figure B: EIC – extracted ion chromatogram of selected compound and corresponding spectrum

Discussion

The presence of an important bile acid (chenodeoxycholic acid - CDCA) in human urine was detected using a simple mobile phase, a Cogent Diamond Hydride HPLC column and an Agilent TOF MS instrument. The column is an excellent choice for LC-MS analysis due to its very low carbon content (~2%) background spectrum that is extremely low. In addition the special surface of the column helps to provide a fast equilibration while using a gradient.

For more information visit www.MTC-USA.com