# Metabolomics – C4 & C5 Hydroxy and Dicarboxylic Acids

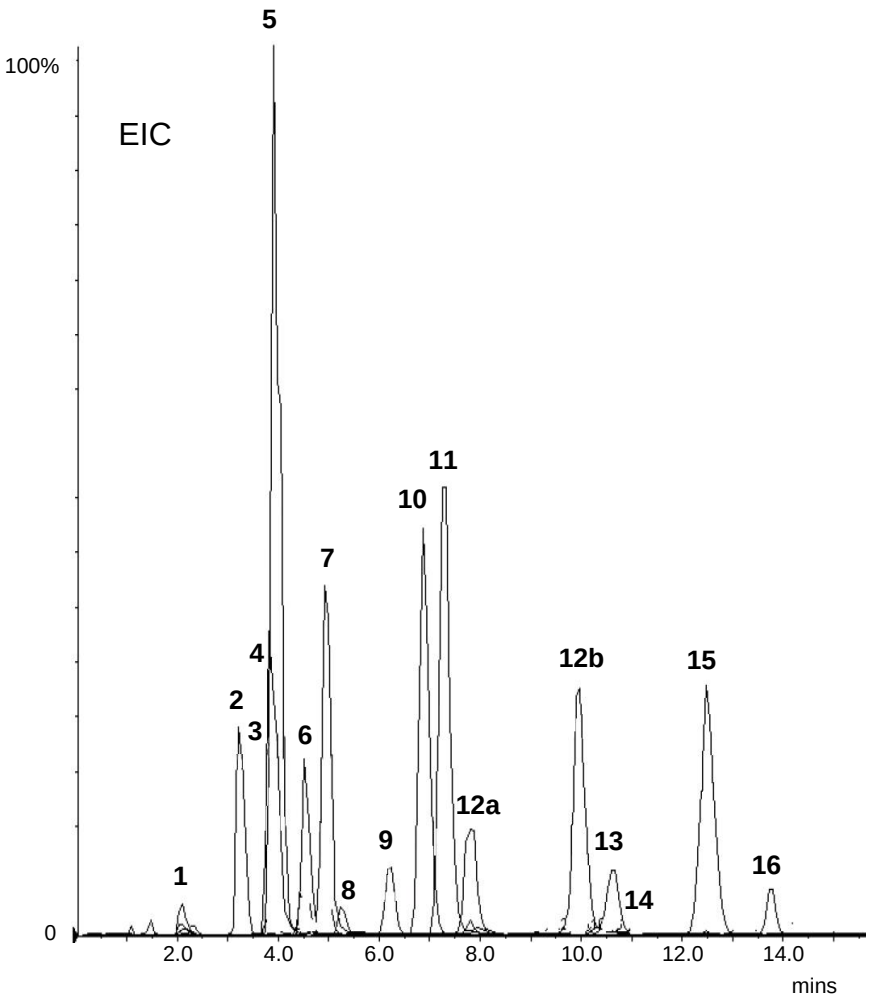
ACE®
Ultra-inert
UHPLC & HPLC Columns

**Application #AN4110**

**Conditions**

| | |
|---|---|
| Column: | ACE 3 C18-PFP |
| Dimensions: | 150 x 2.1 mm |
| Part Number: | ACE-1110-1502 |
| Mobile Phase: | A: 0.1% formic acid in $H_2O$<br>B: 0.1% formic acid in MeCN |
| Detection: | Sciex API 4000 triple quad MS<br>ESI in negative ion mode |
| Sample: | Urine / plasma sample is filtered and extracted with ice-cold methanol, evaporated to dryness and reconstituted in 0.1% formic acid in water |

Please contact info@ace-hplc.com for additional information on the chromatographic conditions used for this analysis.




1. Isocitric acid (*m/z* 191 → 111)
2. 2-Hydroxyglutaric acid (*m/z* 147 → 129)
3. 3-Hydroxyglutaric acid (*m/z* 147 → 85)
4. Maleic acid (*m/z* 115 → 71)
5. Citric acid (*m/z* 191 → 111)
6. Fumaric acid (*m/z* 115 → 71)
7. Succinic acid (*m/z* 117 → 73)
8. Methylmalonic acid (*m/z* 117 → 55)
9. 3-Hydroxy-3-methylglutaric acid (*m/z* 161 → 99)
10. 2-Hydroxyadipic acid (*m/z* 161 → 143)
11. 3-Hydroxyisovaleric acid (*m/z* 117 → 59)
12. 3-Hydroxy-2-methylbutyric acid (*m/z* 117 → 73)
13. Glutaric acid (*m/z* 131 → 87)
14. 2-Ethyl-3-hydroxypropionic acid (*m/z* 117 → 87)
15. Ethylmalonic acid (*m/z* 131 → 87)
16. Methylsuccinic acid (*m/z* 131 → 87)

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