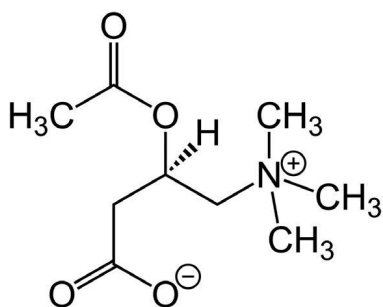
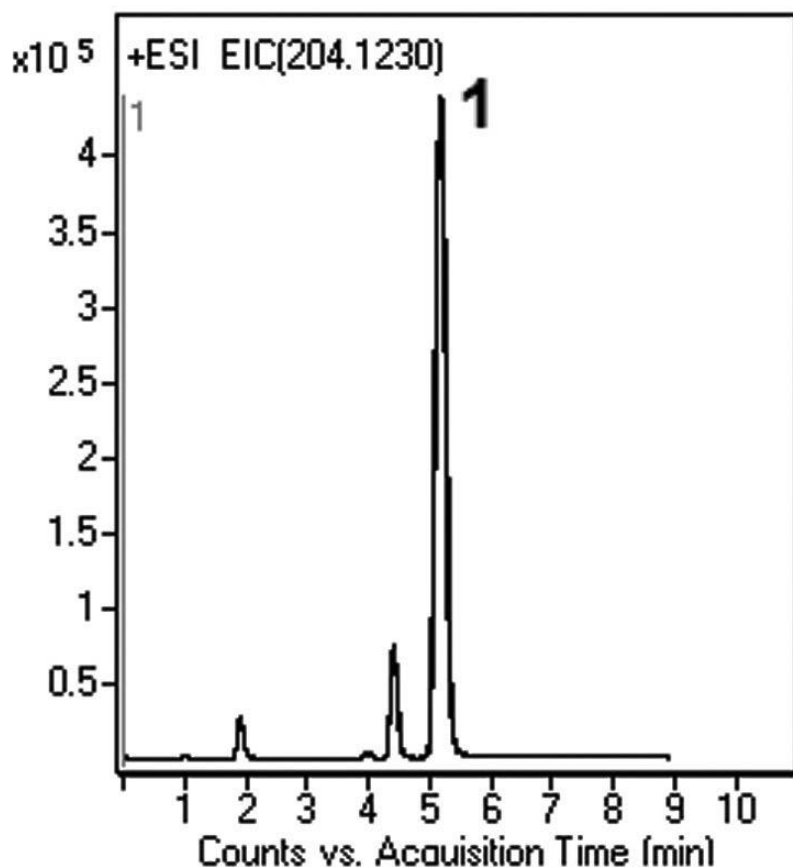


## Acetyl-L-Carnitine in Plasma Analyzed with LCMS - AppNote

### Spiked Plasma Samples with Acetyl-L-Carnitine

The Method in this Application Note was designed to be suitable for the routine analysis of Plasma Samples obtained from animal and human Pharmacokinetic studies in which Acetyl-L-Carnitine (ALC) is administered.

The calibration curve prepared for the Plasma Samples showed good Linearity ( $R^2 = 0.999$ ) and the Precision was good with low %RSD ( $0.2$  and below ). The advantages of this Method over other published LCMS methods are the short Equilibration Time between runs and the Repeatability (*3 overlaid injections are presented in the Chromatogram below*) . Also, this Method uses high organic content in the Mobile Phase, which is more suitable for MS and offers better ionization and improved signal to noise.



### Peak:

Acetyl-L-Carnitine (ALC) 204.1230 m/z [M+H]<sup>+</sup>

### Method Conditions

**Column:** Cogent Diamond Hydride™, 4μm, 100Å

**Catalog No.:** [70000-15P-2](#)

**Dimensions:** 2.1 x 150mm

**Mobile Phase:**

A: DI Water with 0.1% Formic Acid

B: Acetonitrile with 0.1% Formic Acid

**Gradient:**

Time (minutes)	%B
0	80
1	80
5	30
7	30
8	80

**Post Time:** 3 minutes

**Injection vol.:** 1μL

**Flow rate:** 0.4mL / minute

**Detection:** ESI – POS - Agilent 6210 MSD TOF Mass Spectrometer

**Sample Preparation:** Plasma from healthy individuals was spiked with an ALC standard solution and prepared for injections as described by Tallarico et al. [1] . To prepare standard curves dialyzed Plasma was used, to which known amounts of the analyte were added.

**t<sub>o</sub>** : 0.9 minutes

**Note:** ALC is used to improve mitochondrial function. ALC was proposed as an effective drug to be supplement in peripheral arterial disease so there is a need to study and fully understand the Pharmacokinetics of administered ALC.

[1] Carlo Tallarico, Silvia Pace, and Antonio Longo, *Rapid Communications in Mass Spectrometry*, Vol. 12, 403–409 (1998).



## Attachment

**No 240 Acetyl-L Carnitine in Plasma with LCMS pdf** 0.3 Mb [Download File](#)

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