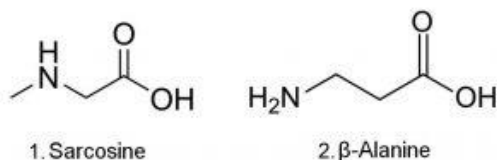
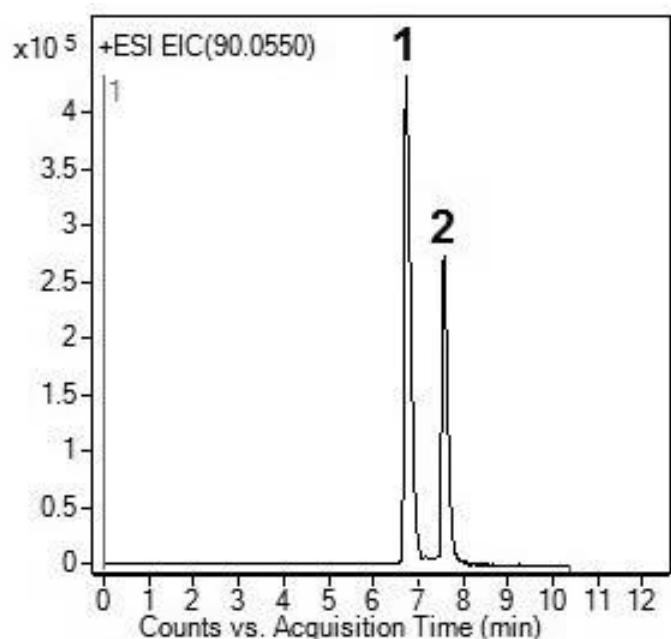


Sarcosine Analyzed with LCMS - AppNote

Separation of Potential Urine Biomarker from Isobaric β -Alanine

This developed LCMS method can separate Sarcosine from Beta- Alanine in serum and urine samples without using labor intensive sample derivatization. Since Sarcosine is considered a potential biomarker for prostate cancer risk and aggressiveness, it is essential to resolve and accurately quantify this compound in the presence of isobaric (same m/z) Beta-Alanine.

The developed method is Sensitive, Specific, Quantitative, and Reproducible ($\%RSD = 0.1$). It can be used in large scale studies with numerous samples (high throughput of the method due to simple sample preparation).



Peaks:

1. Sarcosine
2. β -Alanine

Method Conditions

Column: Cogent Diamond Hydride™, 4 μ m, 100Å

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

Dimensions: 2.1 x 15mm

Mobile Phase:

A: 50% Isopropyl Alcohol / 50% DI Water / 0.1% Acetic Acid

B: 97% Acetonitrile / 3% DI Water / 0.1% Acetic Acid

Gradient:

Time (minutes)	%B
0	75
3	75
4	65
5	65
10	20
12	75

Temperature: 50°C

Post Time: 5 minutes

Flow rate: 0.6mL / minute

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

Injection vol.: 1µL

Sample Preparation: 10mg / L each of Sarcosine and Beta-Alanine in 50:50 A:B

Note: When Reversed Phase Columns were evaluated for their ability to separate Sarcosine from Beta-Alanine, both compounds eluted at the solvent front and were not separated. To achieve separation, a very intensive sample preparation has to be employed (e.g. derivatization) when using RP methods.

**Attachment**

No 129 Sarcosine Analyzed with LCMS pdf 0.2 Mb [Download File](#)

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Copyright 2025, All Rights Apply
MicroSolv Technology Corporation
9158 Industrial Blvd. NE, Leland, NC 28451

Tel: (732) 380-8900
Fax: (910) 769-9435
Email: customers@mtc-usa.com
Website: www.mtc-usa.com