

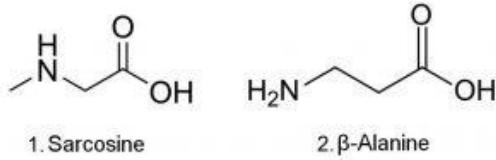
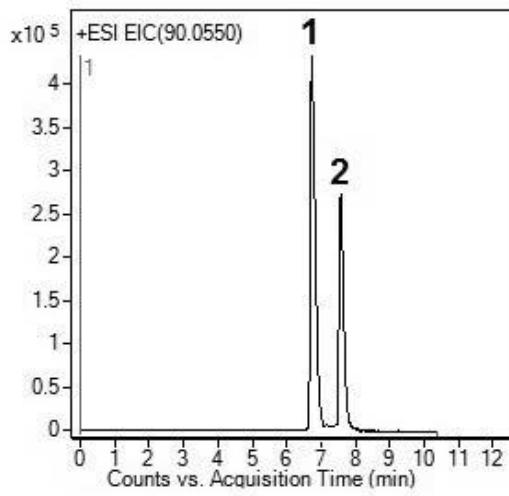


## Sarcosine Analyzed with LCMS - AppNote

### Separation of Potential Urine Biomarker from Isobaric $\beta$ -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.  $\beta$ -Alanine

### Method Conditions

**Column:** Cogent Diamond Hydride™, 4 $\mu$ m, 100 $\text{\AA}$

**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](#)

Printed from the Chrom Resource Center

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](mailto:customers@mtc-usa.com)

Website: [www.mtc-usa.com](http://www.mtc-usa.com)