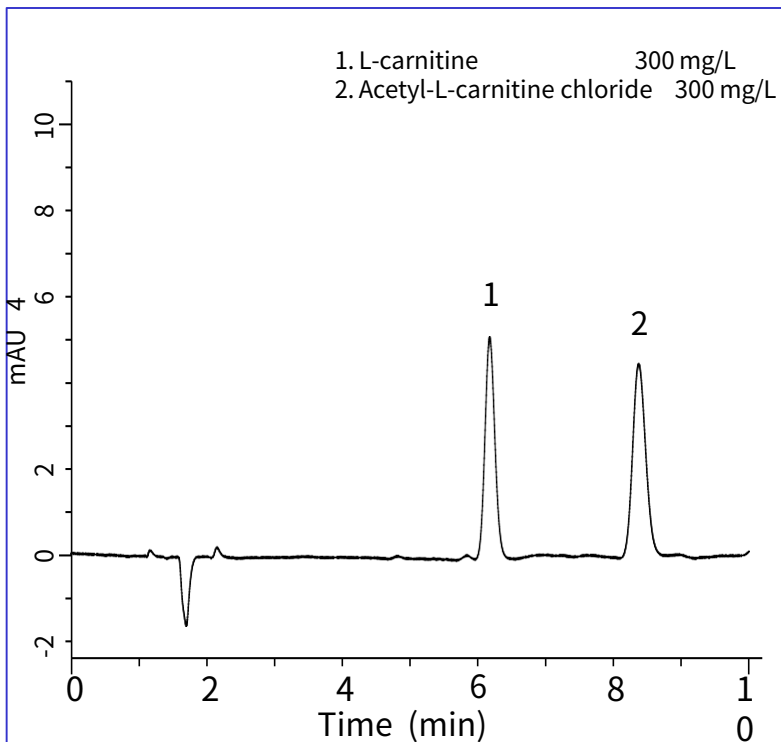


It is said that L-carnitine is effective for fat burning and for dieting, acetyl-L-carnitine is effective for brain aging prevention and for reducing fatigue. Acetyl-L-carnitine is a metabolite of L-carnitine. Both compounds are used as components of supplements, etc.

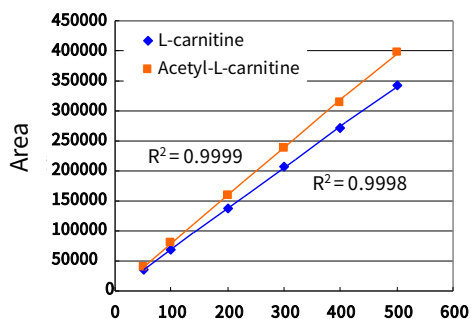
In this technical note, we introduce a HPLC method to measure L-carnitine and acetyl-L-carnitine with UV detector and reversed phase column. L-carnitine is very hydrophilic compounds, though it was retained on ODS column with ion-pair reagent and separated from impurities in an energy drink and a supplement.

Standard Solutions



HPLC Conditions

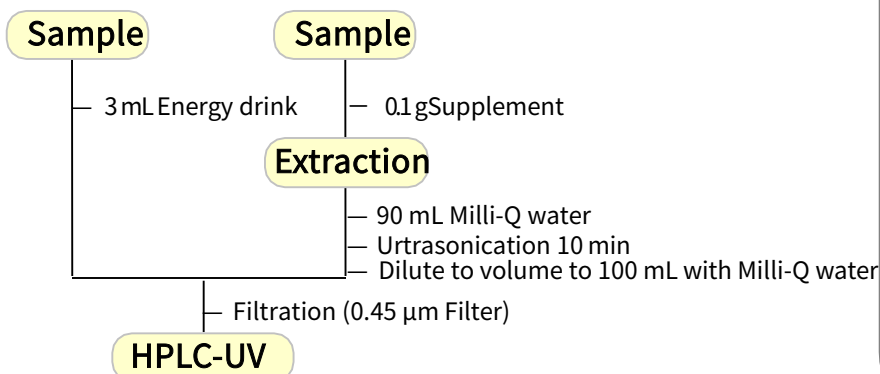
Column : Inertsil ODS-3
(5 μ m, 150 \times 4.6 mm I.D.)
Eluent : A) CH₃OH
B) 5 mM
1-Nonanesulfonic Acid Sodium
Salt, 20 mM NaH₂PO₄ (pH 2.5, H₃PO₄)
A/B = 30/70, v/v
(Mixed by a gradient mixer)
Flow rate : 1.0 mL/min
Col. temp. : 40 $^{\circ}$ C
Detection : UV 210 nm Inj.
vol. : 10 μ L



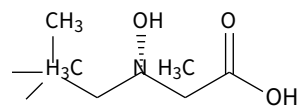
Concentration [mg/L]
Calibration curve

Analysis of energy drink and supplement example

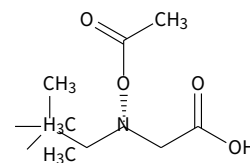
Sample preparation method example



Chemical Structure

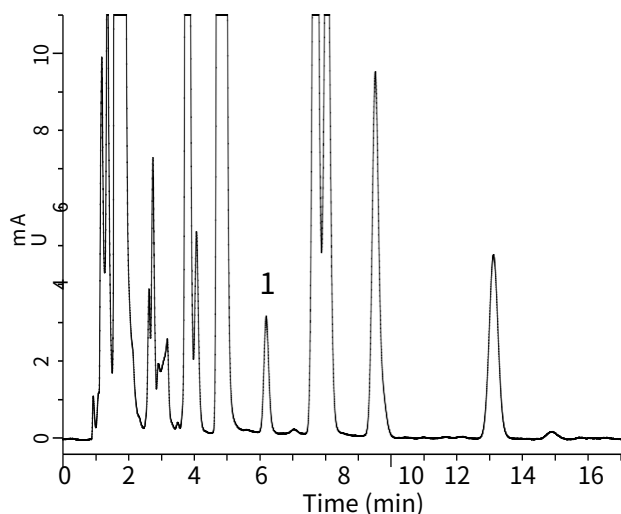


L-carnitine

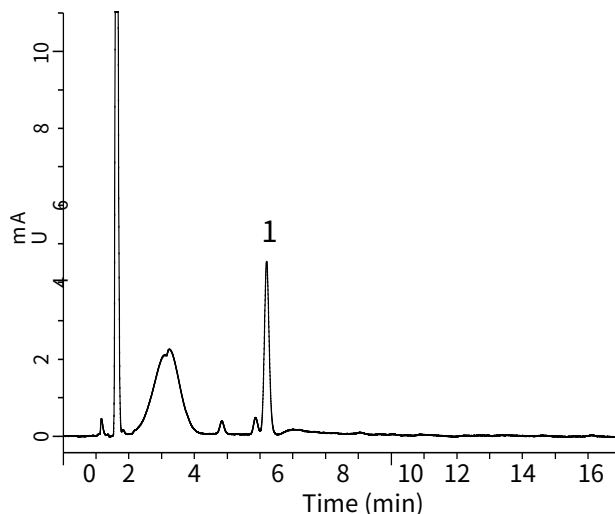


Acetyl L-carnitine

Structures are created using
Chemistry 4-D Draw which is provided by
ChemInnovation Software, Inc.

Energy drink**Supplement**

1. L-carnitine

**HPLC Column**

Inertsil ODS-3 5 μm , 150 \times 4.6 mm I.D.
Cat. No. 5020-01731

Syringe Filter

GL Chromato Disk Sample Filters 25A
PORE SIZE 0.45 μm
Cat. No. 5040-28512

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GL Sciences Inc. Japan

22-1 Nishishinjuku 6-chome
Shinjuku-ku, Tokyo
163-1130, Japan

Phone: +81-3-5323-6620
Fax: +81-3-5323-6621
Email: world@glsc.co.jp
Web: www.glsciences.com

GL Sciences Inc. USA

4733 Torrance Blvd. Suite 255
Torrance, CA 90503
USA

Phone: +1-310-265-4424
Fax: +1-310-265-4425
Email: info@glsciencesinc.com
Web: www.glsciencesinc.com

GL Sciences B.V.

Dillenburgstraat 7C
5652AM, Eindhoven
The Netherlands

Phone: +31-40-254-9531
Email: info@glsciences.eu
Web: www.glsciences.eu

GL Sciences (Shanghai) Limited

Tower B, Room 2003
Far East International Plaza
No.317 Xianxia Road, Changning District
Shanghai, China 200051

Phone: +86-21-62782272
Email: contact@glsciences.com.cn
Web: www.glsciences.com.cn



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