



# L-Carnitine

Presentation by  
Primary Information Services  
[www.primaryinfo.com](http://www.primaryinfo.com)  
<mailto:primaryinfo@gmail.com>

# What is L-Carnitine?

L-Carnitine is a compound produced by the body from lysine and methionine. It can be acetylated to produce Acetyl-L-Carnitine (ALCAR), which is similar but crosses the blood-brain barrier more efficiently. L-Carnitine is best known for its involvement in the mitochondrial oxidation of long-chain fatty acids.

It's found in food and is most prevalent in meat, and beef in particular.



## What are L-Carnitine's benefits?

Acetyl L-Carnitine is essentially L-Carnitine plus an acetyl group added to the molecule. ...

This is the preferred form of Carnitine for brain, nerve and memory support, as it assists with the synthesis of the primary neurotransmitter in the brain, acetylcholine

The US Food and Drug Administration (FDA) has approved the use of L-carnitine in hemodialysis patients for the prevention and treatment of carnitine deficiency



L-carnitine can be used legally as a human dietary supplement, but it is not registered with the FDA for this use.

The FDA does not regulate human dietary supplements in the same way it regulates drugs or animal feed additives; generally, manufacturers do not need to register their products with FDA or get approval before producing and selling supplements for human consumption.

The FDA is responsible for taking action regarding an unsafe product after it reaches the market and making sure the supplement's label is accurate and not misleading (FDA, 2005).

**Alpha Lipoic Acid and Acetyl L-Carnitine form an excellent combination for promoting metabolic functioning to fight against free radicals and oxidative stress.\* This formula helps metabolize sugar in the body to support the conversion of food to energy.\* As a supplement, Alpha Lipoic Acid and Acetyl L-Carnitine can be used as part of a healthy aging program.\***

No Artificial Flavor or Sweetener, No Preservatives, No Sugar, No Starch, No Milk, No Lactose, No Soy, No Gluten, No Wheat, No Yeast, No Fish. Sodium Free.



# Acetyl L-Carnitine HCl

## 400mg | with Alpha Lipoic Acid 200mg

Energy Support & Antioxidant Health\*



Healthy Aging Formula!

**DIRECTIONS:** For adults, take one (1) capsule four times daily, preferably with meals.

Supplement Facts		
Serving Size 1 Capsule		
Amount Per Serving		%Daily Value
Acetyl L-Carnitine HCl	400 mg	**
Alpha Lipoic Acid	200 mg	**

\*\*Daily Value not established.

**Other Ingredients:** Gelatin, Vegetable Magnesium Stearate, Vegetable Cellulose. **Contains <2% of:** Acacia Gum, Titanium Dioxide Color.

**WARNING:** If you are pregnant, nursing, taking any medications or have any medical condition, consult your doctor before use. Discontinue use and consult your doctor if any adverse reactions occur. Keep out of reach of children. Store at room temperature. Do not use if seal under cap is broken or missing.

Carefully Manufactured by  
**NATURE'S BOUNTY, INC.**  
 Bohemia, NY 11716 U.S.A.  
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Nutrition Questions or Comments? Call 1-800-433-2990 Mon.- Sat. 9 AM - 7 PM ET

For educational health tips and savings join our e-newsletter, visit [www.NaturesBounty.com](http://www.NaturesBounty.com)

\*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.



Prod. No. 66070 B15582 06F

30 capsules

AMINO ACID SUPPLEMENT

The global Acetyl-L Carnitine (ALC) industry has a rather high concentration. The major manufacturers are concentrated in North America, Asia-Pacific and Europe, such as Post Holdings, GNC, Nature's Way, Nature's Bounty and NOW. At present, Post Holdings is the world leader, holding 10.24% Sales market share

**United States Patent** [19]  
**Yokozeki et al.**

[11] **Patent Number:** **4,650,759**  
[45] **Date of Patent:** **Mar. 17, 1987**

[54] **METHOD OF PRODUCING L-CARNITINE**  
[75] **Inventors:** **Kenzo Yokozeki; Koji Kubota**, both of Kawasaki, Japan  
[73] **Assignee:** **Ajinomoto Company, Incorporated**, Tokyo, Japan  
[21] **Appl. No.:** **599,923**  
[22] **Filed:** **Apr. 13, 1984**  
[30] **Foreign Application Priority Data**  
Apr. 13, 1983 [JP] Japan ..... 58-65009  
[51] **Int. Cl.<sup>4</sup>** ..... **C12P 13/00; C12P 7/40; C12P 7/42**  
[52] **U.S. Cl.** ..... **435/128; 435/132; 435/146**  
[58] **Field of Search** ..... **435/128, 129, 132, 146, 435/170, 178, 106, 877; 260/501.13; 568/844**

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4,413,142 11/1983 Fiorini et al. .... 568/844

**OTHER PUBLICATIONS**

Seim, H. et al., (1982) Acta. Biol. Med. Ger. vol. 42(4), pp. 379-389 (abst.).  
Chem. Abst. vol. 98, 1983, 122,551z.

*Primary Examiner*—Charles F. Warren  
*Assistant Examiner*—Janet M. Dougherty  
*Attorney, Agent, or Firm*—Oblon, Fisher, Spivak, McClelland & Maier

[57] **ABSTRACT**  
A method for producing L-carnitine which involves contacting crotonbetaine or a non-toxic, soluble salt of this compound with a microorganism or an enzyme fraction of this microorganism which is capable of converting crotonbetaine or its salts into L-carnitine. The conversion is conducted in an aqueous medium under conditions suitable for production of L-carnitine.

[56] **References Cited**  
**U.S. PATENT DOCUMENTS**  
4,221,869 9/1980 Vandecasteele et al. .... 435/877

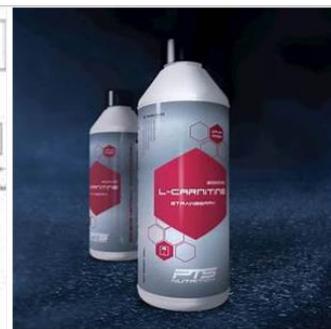
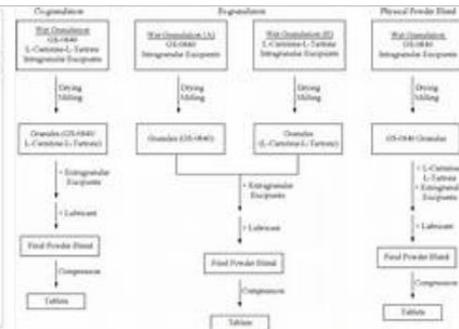
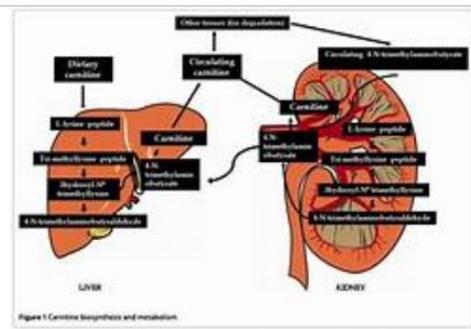
**6 Claims, No Drawings**

# Products in the Market



The screenshot shows a web browser window with the following elements:

- Browser Tabs:** "Inbox (16,863) - primaryinfo@gm...", "Acetyl L-Carnitine - Yahoo India | x", and a plus sign for more tabs.
- Address Bar:** [https://in.images.search.yahoo.com/search/images;\\_ylt=AwrT4pF8yyhdqLUAoDW7HAX;\\_ylu=X3oDMTB0NjZjZzZhBGNvbG...](https://in.images.search.yahoo.com/search/images;_ylt=AwrT4pF8yyhdqLUAoDW7HAX;_ylu=X3oDMTB0NjZjZzZhBGNvbG...)
- Navigation Bar:** Includes "Apps", "informer", "Outlook Mail", "Gmail", "Primary Info", "Google Advanced S...", "New Tab", "The fastest free You...", and "Convert HTML to P...".
- Search Results:** A grid of 18 different Acetyl L-Carnitine product bottles from various brands, including OSHIANIC, VITAMIN DISCOUNT CENTER, DOUGLAS LABORATORIES, blooms, MRM, Natural Factors, and NOW. Each bottle has its own label with the product name and dosage.
- Taskbar:** Shows the Windows Start button, a search bar with "Type here to search", and several application icons (Excel, Edge, File Explorer, Mail, etc.). The system tray on the right shows the time "23:34" and date "12-07-2019".





# Questions?

Contact:

Primary Information Services

[www.primaryinfo.com](http://www.primaryinfo.com)

<mailto:primaryinfo@gmail.com>