

Consumer Health & Nutrition

龙沙Carnipure®左旋肉碱

汤臣倍健
By-Health



龙沙概况

超过120年历史

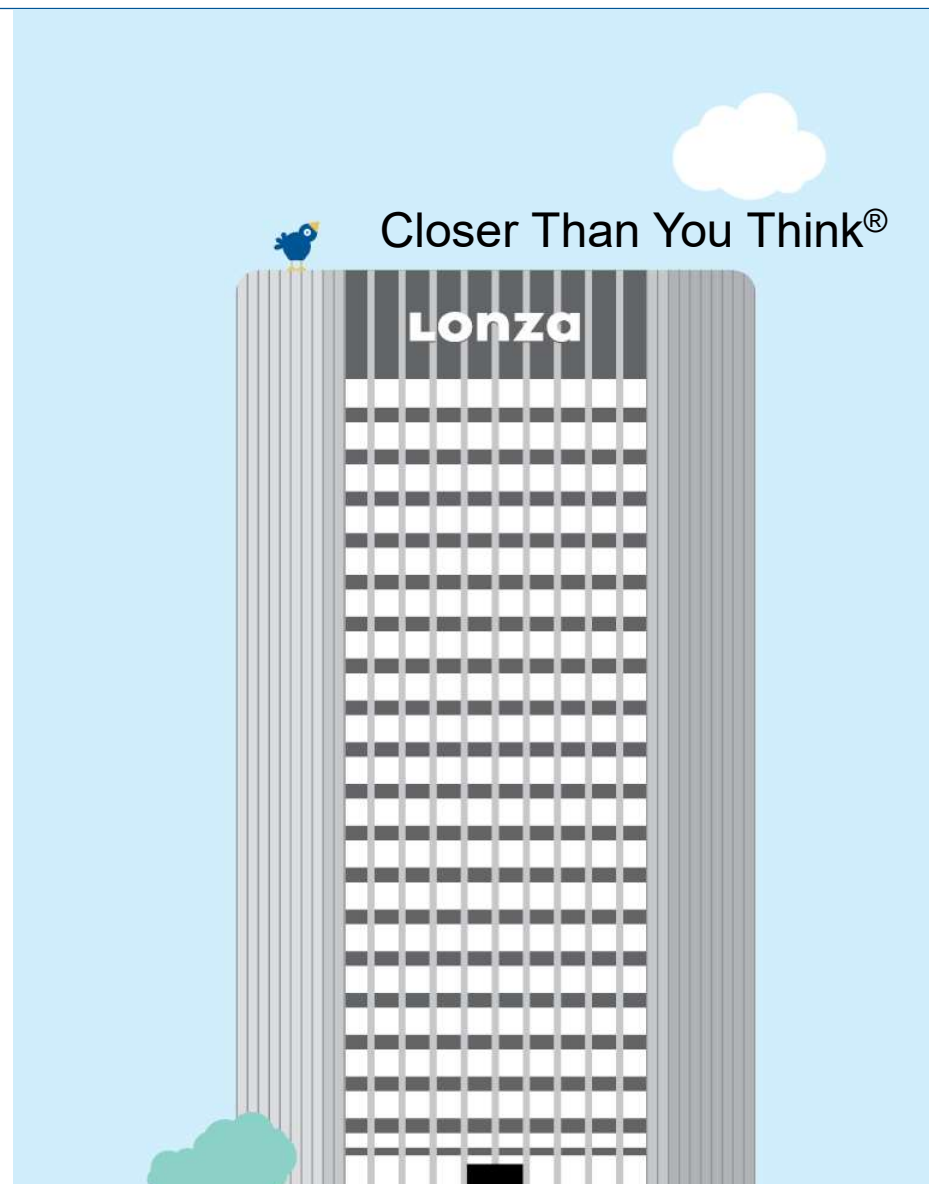
- 1897 龙沙诞生于瑞士阿尔卑斯地区

...

- 2016 收购美国InterHealth



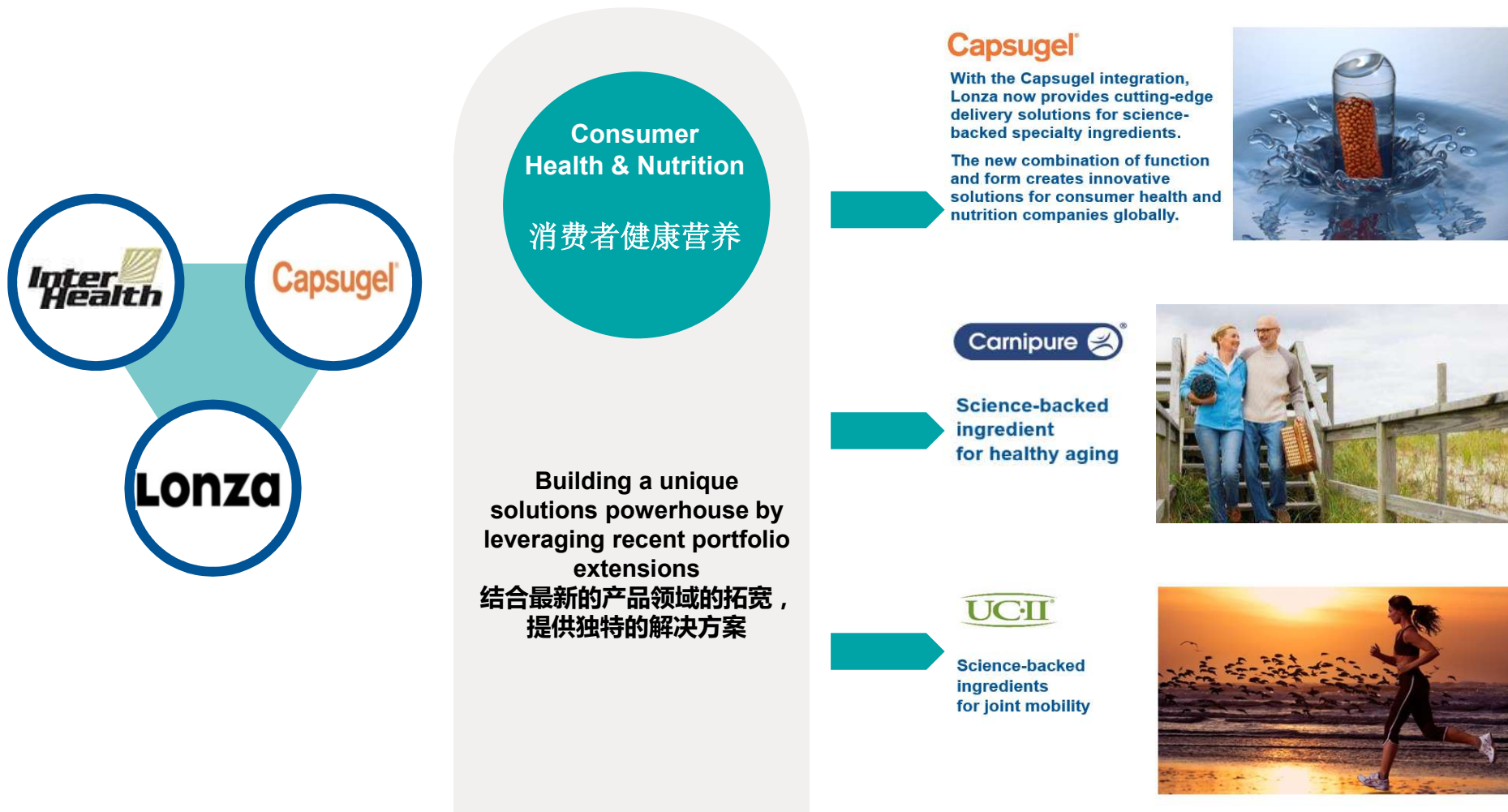
- 2017 收购美国Capsugel



龙沙特殊原料业务 – 消费者健康营养

Lonza

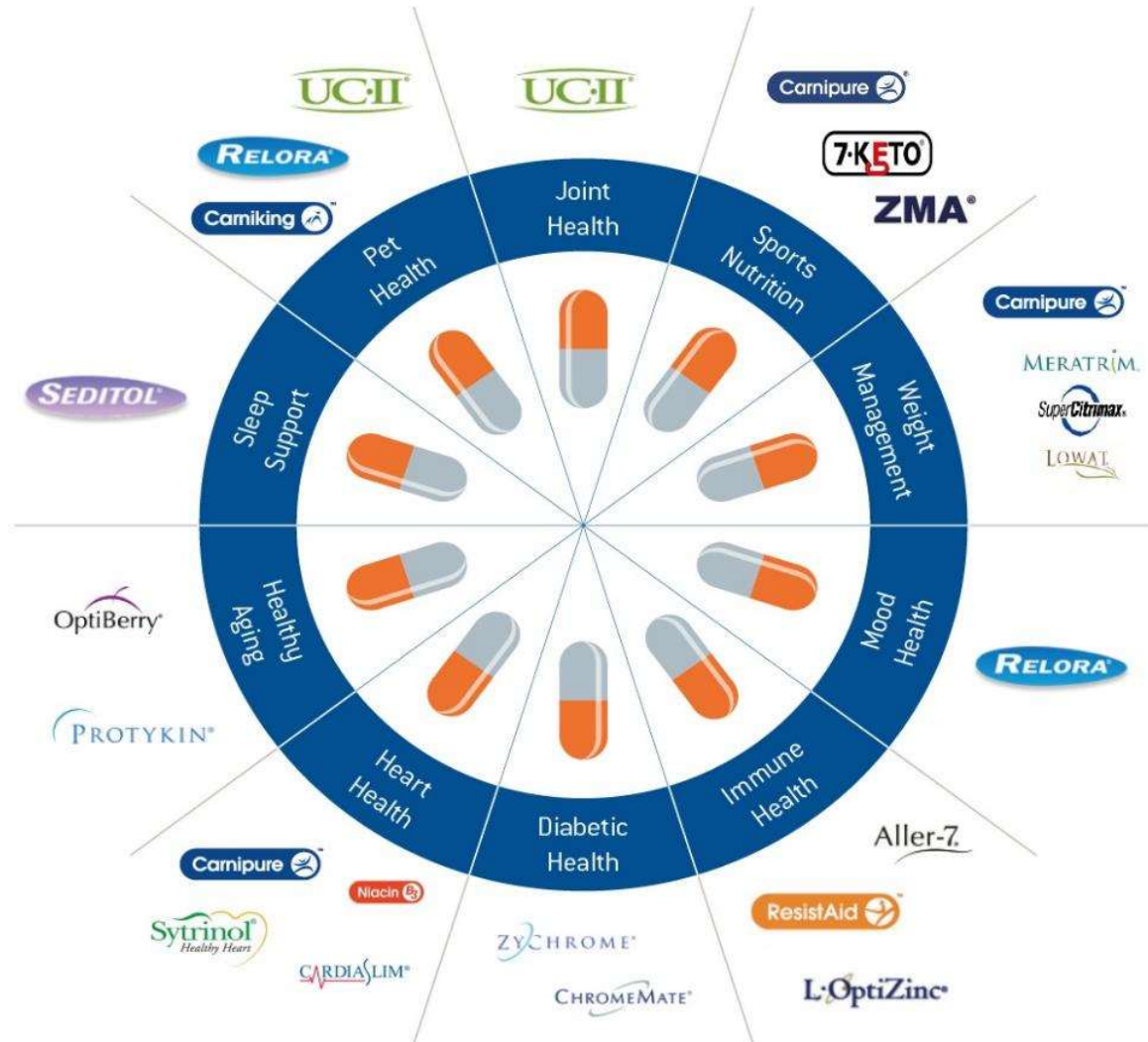
为核心市场提供解决方案



健康营养趋势越来越受到关注

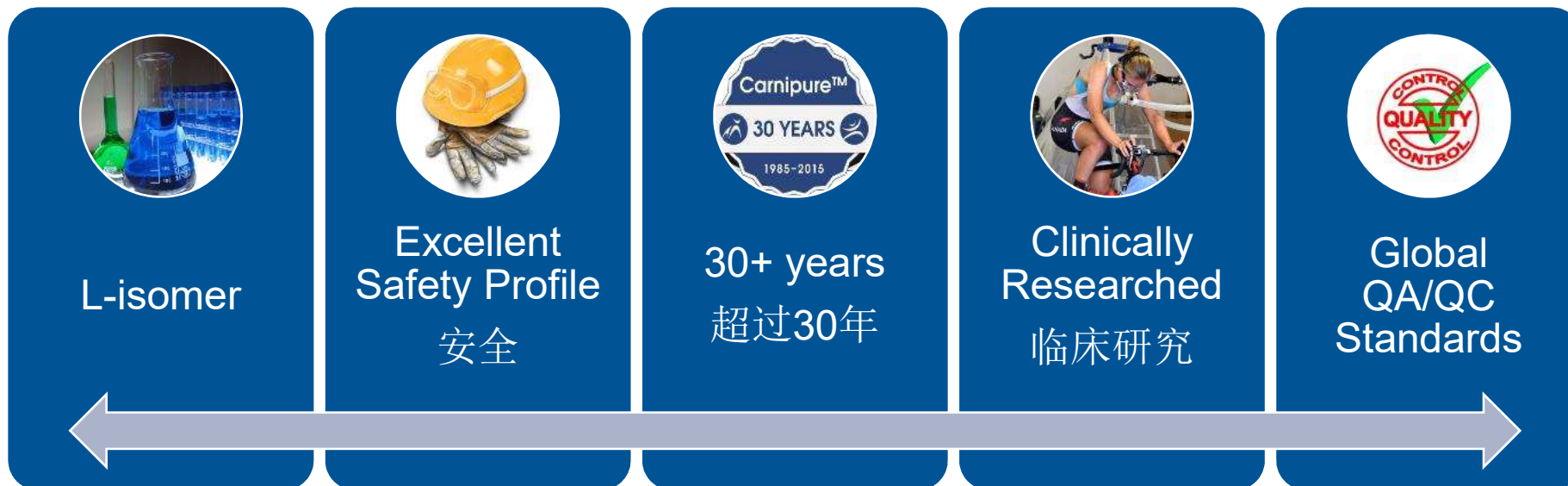
结合龙沙多方技术专业平台能力，为更多市场提供前沿的解决方案

- A strong spectrum of science-backed nutritional ingredients supplemented with integrated formulated solutions
- Cutting-edge delivery solutions through Capsugel



什么是Carnipure® 左旋肉碱?

拥有高质量、安全性以及创新性



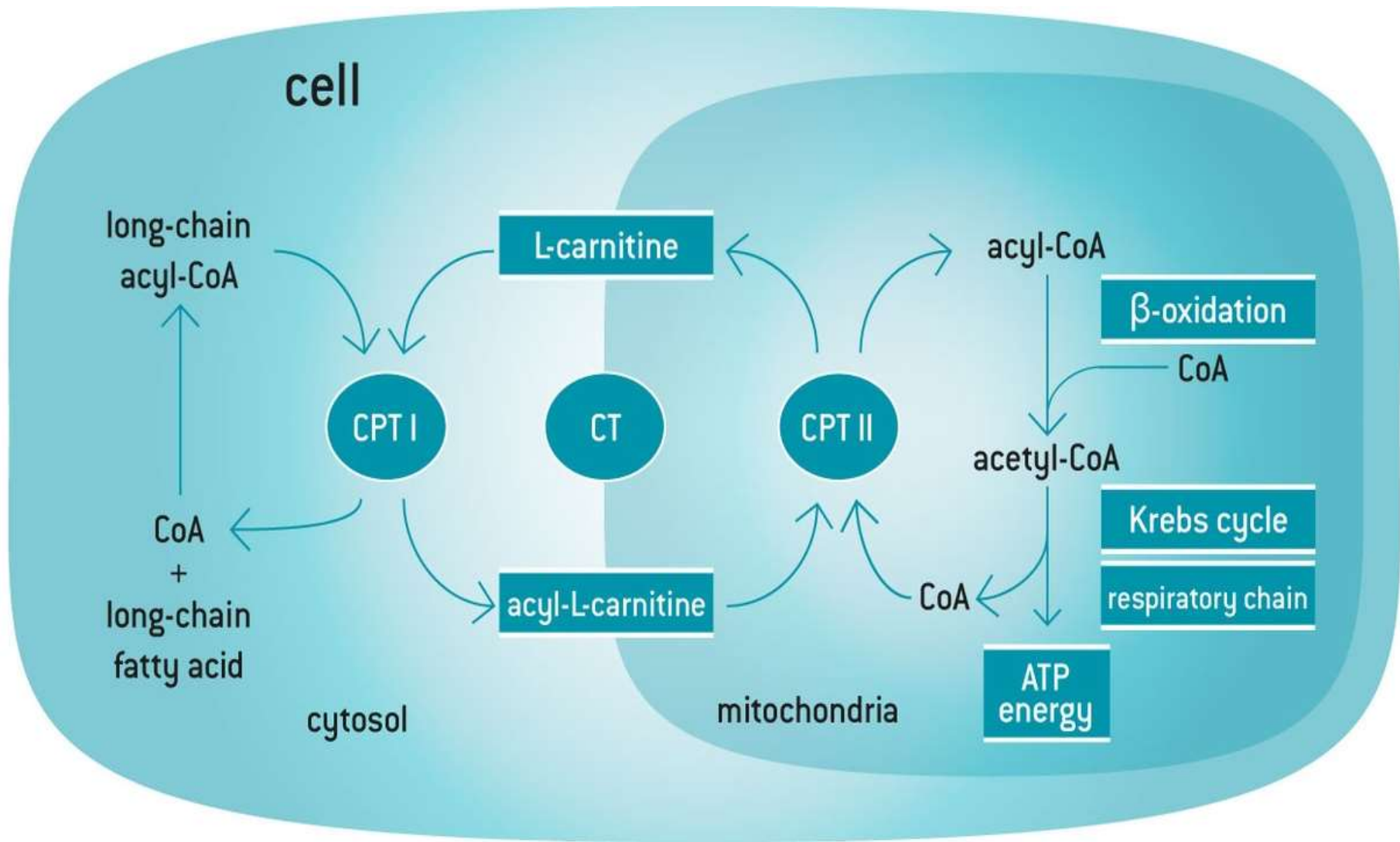
- 龙沙提供两种规格的 Carnipure® 左旋肉碱: Carnipure® crystalline and Carnipure® tartrate.
- 印有Carnipure® 质量印章的产品, 表明其中使用的左旋肉碱来自于瑞士龙沙
- Carnipure® 品牌可追溯, 并且依旧持续进行该产品的科学研究

产品外标签上印有Carnipure® 质量印章, 表示该产品所含有高品质的龙沙左旋肉碱。



Built on Quality. Backed by Science.™

Carnipure[®] 作用机理



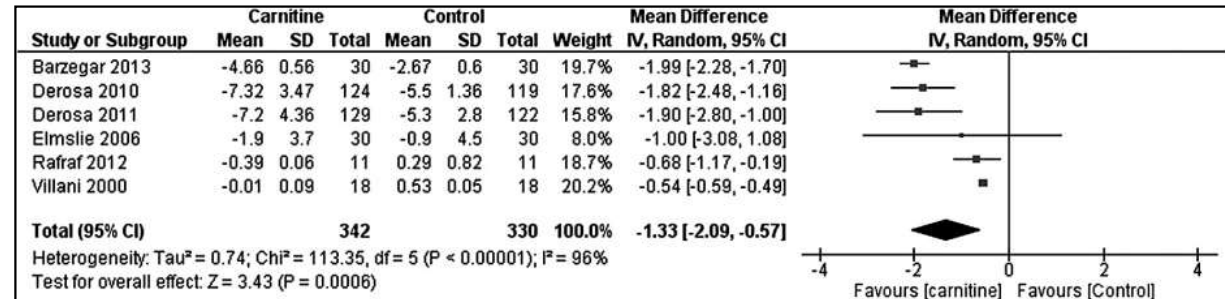
体重管理功效：荟萃分析（A Meta-Analysis）

Pooyandjoo et al., 2016

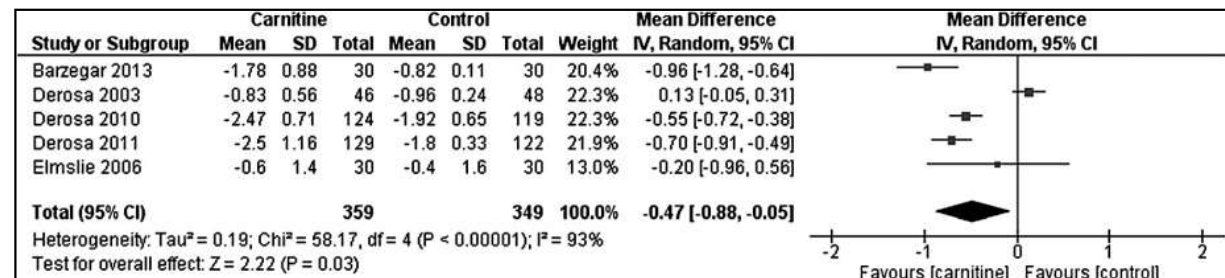
目的	测试左旋肉碱在体重管理方面的作用
实验设计	9 组随机, 对照试验
样本	N=911
指标	BMI, 体重

实验结果

- 摄取左旋肉碱补充剂对减重有明显效果
- ✓ 平均体重变化: -1.33 kg
- ✓ 95% CI: (-2.09, -0.57)
- ✓ P值= 0.0006



- 补充左旋肉碱可以降低BMI值
- ✓ 平均BMI变化: -0.47 kg/m²
- ✓ 95% CI: (-0.88, -0.05)
- ✓ p值= 0.03



Carnipure® 应用

Carnipure® 是由瑞士龙沙公司生产的特殊规格左旋肉碱

Carnipure® 具有多种功效，可应用于多种不同应用领域
左旋肉碱是将长链脂肪酸传输到线粒体膜的必需物质，帮助分解长链脂肪酸以及能量生成。



Infant Nutrition
婴幼儿营养



Exercise Recovery
运动修复



Weight Management
体重控制



Energy Metabolism
能量



Healthy Aging
抗衰老



Cardiovascular Health
心血管疾病



Pet Health
宠物健康

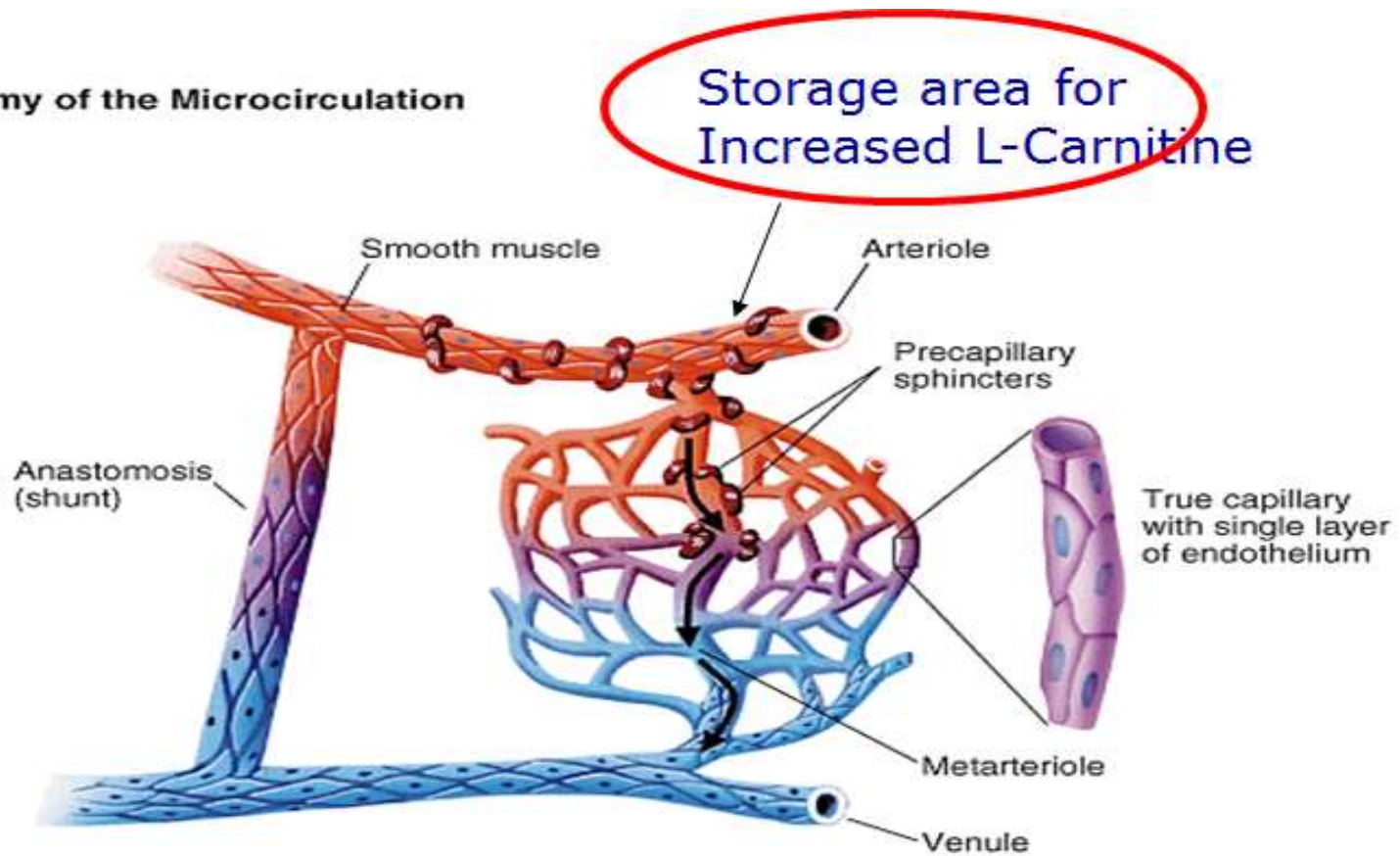
Consumer Health & Nutrition

Carnipure®运动营养的临床研究



Recovery Mode of Action

► **Anatomy of the Microcirculation**



Carnipure®运动修复研究概况

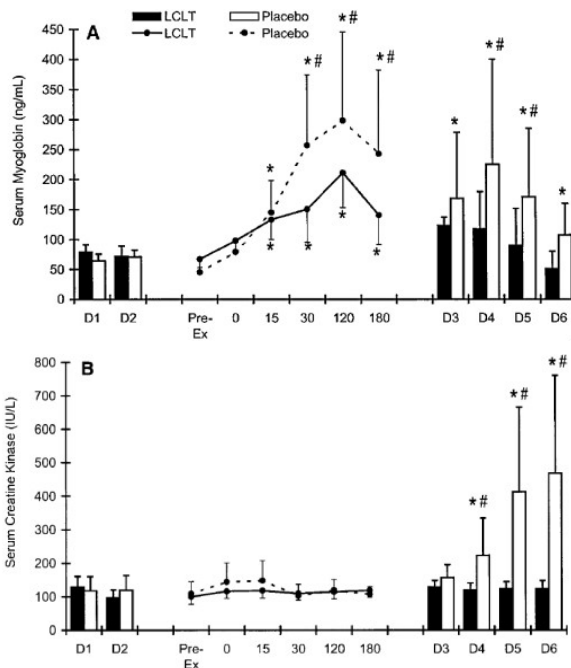
Exercise Recovery Study Overview

研究作者	年份	# 样本	Characteristics	性别	年龄组	周期
Parandak K et al	2014	21	Healthy active	m	21-23	2 weeks
Ho JY et al	2010	18	Healthy active	m/f	40-60	3 weeks
Spiering BA et al	2008	9	Resistance-trained	m	19-31	3 weeks
Parthimos T et al	2008	10	Basketball players	m	18-19	4 weeks
Spiering BA et al	2007	8	Healthy	m	19-25	3 weeks
Kraemer WJ et al	2006	10	Resistance-trained	m	21-23	3 weeks
Kraemer WJ et al	2003	10	Healthy, weight-trained	m	21-25	3 weeks
Volek JS et al	2002	10	Recreationally weight-trained	m	21-26	3 weeks
Giamberardino MA et al	1996	5	Untrained	m	22-33	3 weeks

Volek UCONN 研究 2002

随机的，双盲、安慰剂对照、平衡交叉式实验设计

研究组	Group 1: Carnipure = 2克/天 Group 2: 安慰剂
样本	人数=10, 平均年龄23.7
周期	运动前, 3周服用补充剂+恢复周期6天
主要终点	嘌呤分解、自由基形成、肌膜断裂以及疼痛感
测试时间	D1, D2 (pre-squat), 0, 15, 180 mins 深蹲训练, D3, D4, D5, D6
结果	<ul style="list-style-type: none"> 跟安慰剂组相比, 肌肉组织拉伤比例明显降低; 相比补充LC测试组, 安慰剂组在运动后第一天、第二天和4天后的疼痛感明显; 服用LC补充剂组与安慰剂组相比, 应激标志物明显降低; 或者 <ul style="list-style-type: none"> 安慰剂对照组深蹲运动后表现出明显的应激标志物的增加, 而补充LC群体没有; 观测应激标志物包括, 次黄嘌呤、黄嘌呤氧化酶、尿素、肌球素、肌酸激酶、FABP脂肪酸结合蛋白



- *P 0.05 相对于运动前的数值;
- #P 0.05 LCLT与安慰剂组对照值;
- 与运动前两组数据相比较, 15分钟后肌球素含量明显上升; 另外, 服用LC补充剂组, 在30, 120和180分钟后, 肌球素含量明显上升;
- 服用LC补充剂组与运动前的数据相比, 运动恢复中的第3天到第6天肌球素水平都没有表现出明显差异。

- 服用LC补充剂组在恢复周期 (第3天到第6天) 的血浆肌酸激酶水平与运动前相比没有表现出明显差别;
- 结果显示左旋肉碱可以减少肌肉酸痛症的影响。

Older Adults Study, 2010

Randomized, balanced, double-blind, placebo-controlled, cross-over design

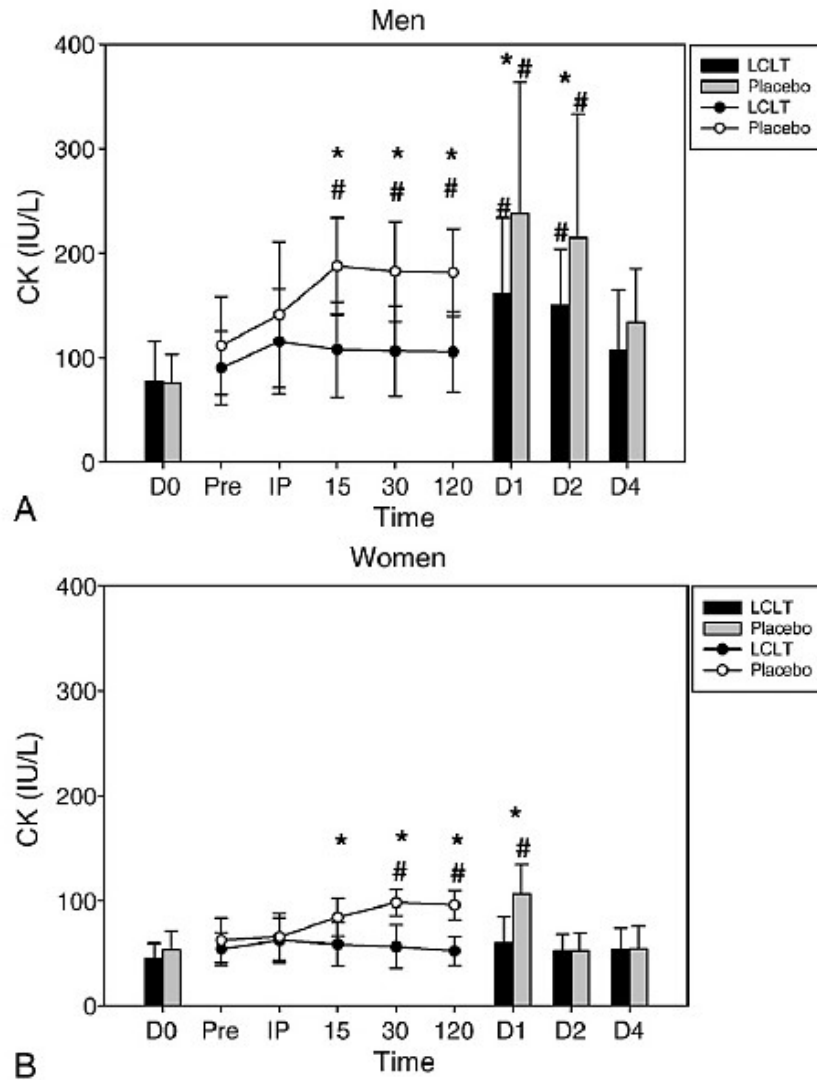
Groups	Group 1: Carnipure® = 2g/day Group 2: Placebo
Subjects	N= 18, Avg age 48.65 years old
Duration	3 weeks supplementation period prior to the squat protocol + three day recovery period
Primary Endpoint	Reduction of markers of exercise stress and perceived soreness 应激标志物以及疼痛感的降低
Time points	<ul style="list-style-type: none"> Blood markers – pre-exer, 0, 15, 30, 120 mins, D1, D2, D4 post squat Perceived muscle soreness – Baseline, pre, immediately after, 120mins, D1, D2, D4
Results	<p>The 2g dose reduced post exercise biochemical markers of purine metabolism, free radical formation, muscle tissue disruption, and muscle soreness after physical exertion</p> <p>2g的计量可以有效减少运动后的嘌呤代谢，自由基的生成、肌肉组织的受伤以及肌肉疼痛的问题。</p>

Source: Ho 2010_LCLT supplementation favourably affects biochemical markers of recovery in baby boomers



Older Adults Study, 2010

Results



- #P <.05 from corresponding pre-exercise value.
- *P <.05 between corresponding L-Carnitine and placebo values.

Source: Ho 2010_LCLT supplementation favourably affects biochemical markers of recovery in baby boomers

左旋肉碱补充剂最新研究报告

健康成年群体

- 近期 *Nutrients* 发表了龙沙左旋肉碱功效的最新研究
- 左旋肉碱对健康成人运动修复作用



Review

L-Carnitine Supplementation in Recovery after Exercise

Roger Fielding¹, Linda Riede², James P. Lugo³ and Aouatef Bellamine^{3,*}

¹ Tufts University, 136 Harrison Avenue, Boston, MA 02111, USA; roger.Fielding@tufts.edu

² analyze & realize GmbH, Waldseeweg 6, 13467 Berlin, Germany; lriede@a-r.com

³ Lonza Inc., 90 Boroline Road, Allendale, NJ 07401, USA; jim.lugo@lonza.com

* Correspondence: aouatef.bellamine@lonza.com; Tel: +1-201-683-2974

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健康年轻人群功效

- ✓ 有助运动中提高运动成绩以及耐力
- ✓ 帮助运动后修复
- ✓ 减少肌肉损伤以及酸痛
- ✓ 改善血管中的血液流动
- ✓ 抗衰老的最新用途

左旋肉碱补充剂最新研究报告

健康成年群体

- 第二份新研究刊登于 **Nutrition & Metabolism**，研究表明左旋肉碱在中老年人中的功效
- 对于老龄化人群，左旋肉碱的摄取可以帮助增加肌肉组织以及提高肌肉的功效
- 该研究实验遵循随机、双盲安慰剂对照测试



Evans et al. *Nutrition & Metabolism* (2017) 14:7
DOI 10.1186/s12986-016-0158-y

Nutrition & Metabolism

RESEARCH Open Access

CrossMark

Efficacy of a novel formulation of L-Carnitine, creatine, and leucine on lean body mass and functional muscle strength in healthy older adults: a randomized, double-blind placebo-controlled study

Malkanthi Evans¹, Najla Guthrie¹, John Pezzullo², Toran Sanli³, Roger A. Fielding⁴ and Aouatef Bellamine^{5*}

老龄化人群功效

- ✓ 帮助增加肌肉组织
- ✓ 有效维持肌肉力量
- ✓ 增强体力以及抗疲劳

Carnipure® Value package

Lonza

■ Customer Service/Support

- Reg Support
- Label Review
- Tech Support
- Plant Audits

■ Science

- Studies in Carnipure
- Continuous innovation

■ Branding

- Quality Seal
- Co-promotion
- Carnipure website

Carnipure 品牌

Quality Seal

Lonza



Built on Quality. Backed by Science.™



GNC

L-Carnitine
500 MG

Facilitates the metabolism of long-chain fatty acids*

DIETARY SUPPLEMENT
60 CAPSULES

CODE 037628 BOG
Directions: As a dietary supplement, take one capsule daily. For maximum support, take as directed every day.

Supplement Facts	
Serving Size One Capsule	
Amount Per Serving	
L-Carnitine (as L-Carnitine L-Tartrate)	500 mg*
* Daily Value not established.	

Other Ingredients: Gelatin.
Potency verified by GNC procedure #5064. Conforms to USP <2091> for weight. Meets USP <2040> disintegration.
No Sugar, No Artificial Colors, No Artificial Flavors, Sodium Free, No Wheat, No Gluten, No Corn, No Soy, No Dairy, Yeast Free.
KEEP OUT OF REACH OF CHILDREN.
Store in a cool, dry place.

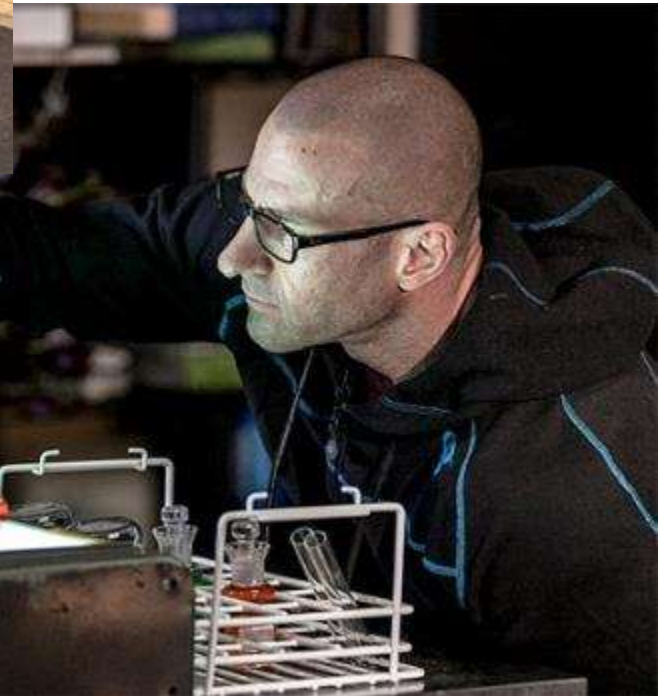
Carnipure Carnipure™ offers purest L-carnitine and is a trademark of Lonza Ltd, Switzerland.

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



品牌大使

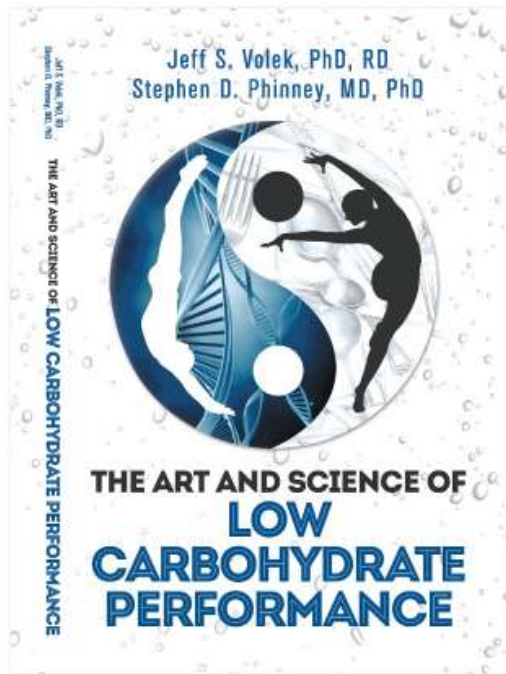
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Jeff Volek Ph.D.

Lonza

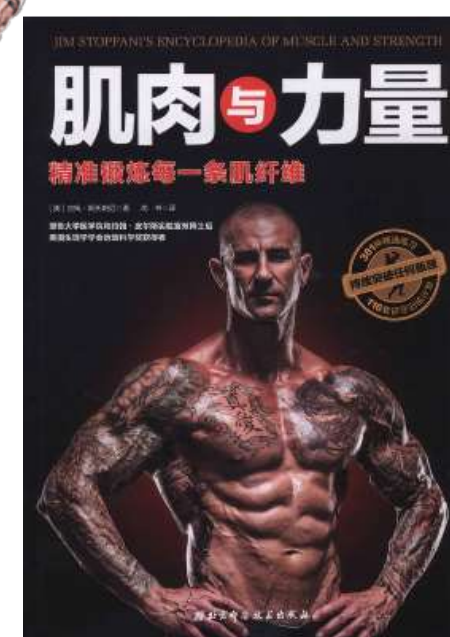
- 宾夕法尼亚州立大学运动生理学和营养博士
- 宾夕法尼亚州立大学运动科学MS
- 俄亥俄大学教授
- 主要研究：低碳水化合物饮食的生理适应性以及补充剂对健康和运动的影响
- 《低碳水化合物生活的艺术与科学》作者之一



Jim Stoppani Ph.D. 吉姆·斯托帕尼博士

“健身界最值得信赖的导师”

- 约翰·皮尔斯实验室和耶鲁大学医学院的博士后
- 研究运动和饮食对肌肉组织中的基因调控的影响
- 2002年被美国生理学学会授予运动科学奖
- 《肌肉与力量》作者，《肌肉与健美杂志》，《曲线》杂志的高级科学编辑
- 众多明星、公众人物的私人教练，包括 LL Cool J, Dr. Dre, Dwayne “The Rock” Johnson 以及Mario Lopez
- Jym 补充剂产品线



Jim Stoppani Ph.D. 吉姆·斯托帕尼博士

"JYM Supplement Science combines real science with real ingredients to deliver unreal results. Post JYM, my revolutionary post-workout recovery formula, delivers the ingredients you need after every workout to promote those unreal results. It's a powerful post-workout cocktail scientifically-designed to help you boost repair, maximize recovery, and build more muscle.*"*

Many of the ingredients in Post JYM Active Ingredients Matrix mirror ingredients in my Pre JYM. These ingredients include BCAAs, creatine HCl, beta-alanine, betaine, and taurine. These five ingredients should be consumed before and after every workout to help boost maximal performance and muscle growth. Thus, Pre JYM and Post JYM Active Ingredients Matrix are designed to work in concert. Take Pre JYM to train like an animal; use Post JYM Active to recover like a pro.**

Post JYM Active Ingredients Matrix also contains carnitine and glutamine, which are important to quickly ramp up post-workout repair. In addition, you can also purchase Post JYM Dextrose separately. This way Post JYM lets you control your carbs and customize your post-workout protocol.*

Like every JYM product, Post JYM Active Matrix contains no proprietary blends, proper amounts, no "abbreviated" formulas, no concentrates, and no BS. There is no filler. Every single ingredient is included at the studied amount to optimize repair and growth. That's the power, and promise, of Post JYM Active Ingredients Matrix.*

Prepare to experience the combined power of real science, real ingredients, and unreal results."*

Hit the JYM!



Jim Stoppani, PhD
Owner, JYM Supplement Science

Post JYM Active Ingredients Matrix Features

- Full doses of 8 science-backed ingredients

Amount Per Serving	% Daily Value
Serving Size: 1 Scoop (20g)	
Servings Per Container: About 30	
Calories	45
Total Carbohydrate	1 g <1%**
L-Glutamine	3 g †
Creatine Hydrochloride	2 g †
Beta-Alanine (as CarnoSyn®)	2 g †
L-Carnitine L-Tartrate (as Carnipure™)	2 g †
Betaine (Trimethylglycine)	1.5 g †

THE ULTIMATE POST-WORKOUT FORMULA!

- Recovery*
- Growth*
- Refuel*

JIM STOPPANI EXPERT GUIDE L-CARNITINE WATCH THE VIDEO - 10:48

CARNITINE
HELPS TO TRANSPORT FAT INTO MITOCHONDRIA
CAN THEN BE OXIDIZED TO GENERATE ADENOSINE TRIPHOSPHATE

0:02:44

Kris Gethin 克里斯.格辛

Kris Gethin's High-Volume Shoulder Builder

- Life time natural drug-free bodybuilder
- Former Editor-in-Chief of Bodybuilding.com
- Writer for FLEX USA, FLEX Australia and Muscle & Fitness Australia
- Close to 1 million followers on Facebook
- 28K followers on Instagram
- Owner of Kaged Muscle Supplements



Kaged Muscle Supplements



KAGED MUSCLE

Carnipure 

THE EVIDENCE-BASED CARNITINE

What is CARNIPURE™? Carnipure™ is a special grade of L-Carnitine, manufactured by the Swiss life sciences company Lonza. Thanks to a unique production process based on fermentation, Lonza is the only L-Carnitine manufacturer capable of producing L-Carnitine in the same way as nature.



WE USE THE LATEST HUMAN CLINICAL DATA

00:54 03:03 HD

<https://cn.bodybuilding.com/store/kaged-muscle/l-carnitine.html?skuId=KAG4450083>


WHY YOU SHOULD ONLY USE CARNIPURE™ BRAND L-CARNITINE

Purity & Absorption Are Key


Like any other nutritional supplement, you want to make sure the L-Carnitine you take is free of impurities or potentially harmful ingredients. One way to do this is to use the products that use Carnipure™ brand L-Carnitine. Carnipure™ is manufactured by Lonza, a Swiss company that ensures each serving contains nothing but pure L-Carnitine L-Tartrate.

Carnipure™ is GRAS

In the United States, ingredients to be used in conventional foods and beverages must be either approved food additives or Generally Recognized as Safe (GRAS) among experts qualified by scientific training and experience. Carnipure™ tartrate is self-affirmed GRAS.



**Carnipure™
Purity You Can Trust**

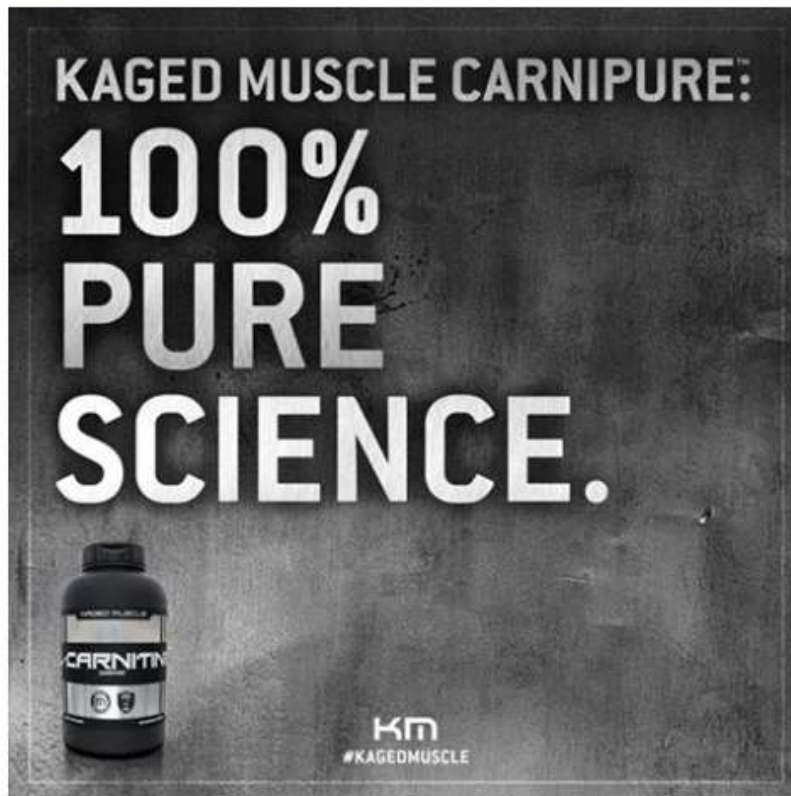


**Lonza L-Carnitine is
Not from Animal
Sources**

Social Media Posts

 **Kaged Muscle Supplements**
1 hr · 🌐

#KagedMuscle #Carnipure is made of 100% pure L-Carnitine tartrate - the type that's best absorbed and utilized by your body to boost aerobic endurance, decrease recovery time, reduce post-workout muscle soreness, contribute to weight loss by using your stored body fat as energy, and protect your health by functioning as an antioxidant. 100% #KagedKnowledge for 100% the best version of yourself. #KM



Like · Comment · Share

 **ThinkitDrinkit** shared their video.
May 2 · 🌐

Working out does wonders to your body and recovery is equally important as it may make or break your will to exert more physical activity. Carnipure® can help make it easier #MotivationMonday



57 Views

Like

 **Krissy Chin** shared Krissy Chin's photo.
September 18, 2014 · 🌐

DON'T MISS OUT ON YOUR CHANCE TO WIN a @teamgaspari #CARNIPURE in yummy Pineapple!

Enter to win by following me on Instagram (@krissychin) & Tag 2 friends on my Instagram carnipure contest post to enter to win a FREE pineapple. #carnipure ! @krissychin #Krissychin #gasparinutrition #teamgaspari #fastedcardiosbestfriend #convertfattoenergy

Winner announced Friday Sept. 19th;)! Good Luck!



osbestfriend?source=feed_text&story_id=854427454577168

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Lonza

ENTER FOR A CHANCE TO WIN

A TRIP FOR TWO TO THE 2016 OLYMPIA FITNESS & PERFORMANCE WEEKEND IN LAS VEGAS!

Post a picture of yourself on Instagram with a bottle of NOW® or NOW® Sports L-Carnitine with Camipure®, and use the hashtag #CamipureNOWsweeps. Or, upload the picture to the contact tab on the Official NOW Foods Facebook page. Twenty winners will win a NOW® Sports Carnitine Prize Pack. View all entries and official rules at Facebook.com/nowfoodsofficial.

NO PURCHASE NECESSARY. PURCHASE WILL NOT IMPROVE YOUR CHANCES OF WINNING, VOID WHERE PROHIBITED BY LAW. "Camipure NOW Sweepstakes" is open to legal residents of the 48 contiguous United States and D.C., age 17 years or older and subject to the Official Rules. For full Official Rules, see nowfoods.com/camipureNOWsweeps. Sweepstakes begins August 24 and ends September 30, 2016. Odds of winning depend on number of eligible entries received from all methods of entry combined. Limit one entry per Sweepstakes. AMSC please read your name, address, email address and phone number along with the words "Camipure NOW Sweepstakes" to: JE Public Relations, INC. Camipure NOW Sweepstakes, 218 Champagne Rd., Woodbridge, NJ 07095. All entries must be postmarked by September 30, 2016. Sponsors: NOW Health Group Inc., 244 Kellenburg Dr., Wilmington, IL 60181 and Lonza, Inc., 90 Dunwoody Rd., Albany, NJ 07112.

ULTIMATE #SHRED

THE HARDCORE FAT BURNER

- ▶ Non-obese Maximum Fat Burning Potential - 2011 AS in preclinical test
- ▶ Extensive high intensity and diet recommendations for maximum Six Day Fat Burning
- ▶ No side effects when used as directed

NEW! Body Attack **LIPO 100 HARDCORE** FAT BURNER COMPLEX

Official Fat Burner of the 2016 Body Attack Sports Nutrition Product Show

Body Attack SPORTS NUTRITION

- Создает эффект «жжения» жира — уменьшает процентное содержание жировой массы в организме.
- Способствует восстановлению процессов организма и укрепляет иммунитет

Camipure Clarinol

УНИКАЛЬНОЕ СОЧЕТАНИЕ

VP Laboratory

PROFESSIONAL NUTRITION

CLA & L-CARNITINE

CLA & L-Carnitine

Weight Loss Formula

- Улучшает работоспособность и самочувствие

VP Laboratory Premium Line

Жиросжигатели

Данная продукция — продукт активного диетического питания на основе высококачественных жиров и аминокислотных кислот.

Website Optimization

“Your expert guide to Carnipure L-carnitine”

Nutrition | Supplementation

Your Expert Guide To Carnipure L-Carnitine



Jim Stoppani, Ph.D.

September 13, 2015 • ⌚ 6 min read

Carnipure is the most popular, highest-quality L-carnitine on the market. It's a popular ingredient in energy drinks, post-workout supplements, and on its own. Here's what you need to know to get the most out of it!

L-carnitine is no newcomer to the supplement scene. It's been studied from a health perspective for more than 40 years. It earned renown as a fat-burner in the 1980s and has experienced resurgence in recent years for both its physique and athletic performance benefits. Carnipure is an optimized, branded form of L-carnitine that is often used for [energy and exercise recovery](#). It's the highest-quality, most research-backed L-carnitine on the market

When taken correctly, L-carnitine can provide a boost to both your training and your physique. Let's look at the science behind Carnipure L-carnitine and how you can get the most out of it.

Source: <https://www.bodybuilding.com/fun/your-expert-guide-to-carnipure-l-carnitine.html>

WHY CARNIPURE

- Produced for over 25 years by Lonza, one of the world's leading suppliers to the pharmaceutical and healthcare industries
- The highest L-carnitine concentration of any

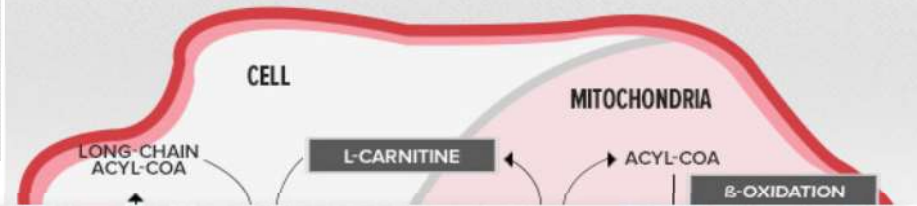
WHAT IS L-CARNITINE?

While it is often categorized as an amino acid, L-carnitine isn't technically an amino. It is considered a "vitamin-like" and "amino acid-like" compound that is related to the B vitamins. When it was first studied back in the 1950s, L-carnitine was referred to as vitamin BT. Whatever you call it, L-carnitine plays an essential role in cells by transferring long chain fatty acids into the mitochondria for fat breakdown and energy generation.^{2,3}

In the body, L-carnitine is formed in the liver and kidneys from the amino acids lysine and methionine. However, it is stored elsewhere, primarily in muscle (including the heart), the brain, and even in sperm. In the diet, it mainly comes from meat and other animal products. You can get some from plant products like avocado and soybeans, but as a rule, meat is the best source—and the redder the better.

HOW L-CARNITINE WORKS IN CELLS


L-carnitine transports long-chain fatty acids into the mitochondria, where they are broken down and used for energy.




CARNIPURE™ BENEFITS

Studies show that taking L-Carnitine can help your health and performance in the gym. The list below provides several ways it can help:

- Boost your aerobic endurance and help you work out harder, longer.
- Decrease recovery time and reduce post-workout muscle soreness.
- Give you more energy.
- Help with weight loss by using your stored body fat as energy.
- Protect your health by functioning as an antioxidant.





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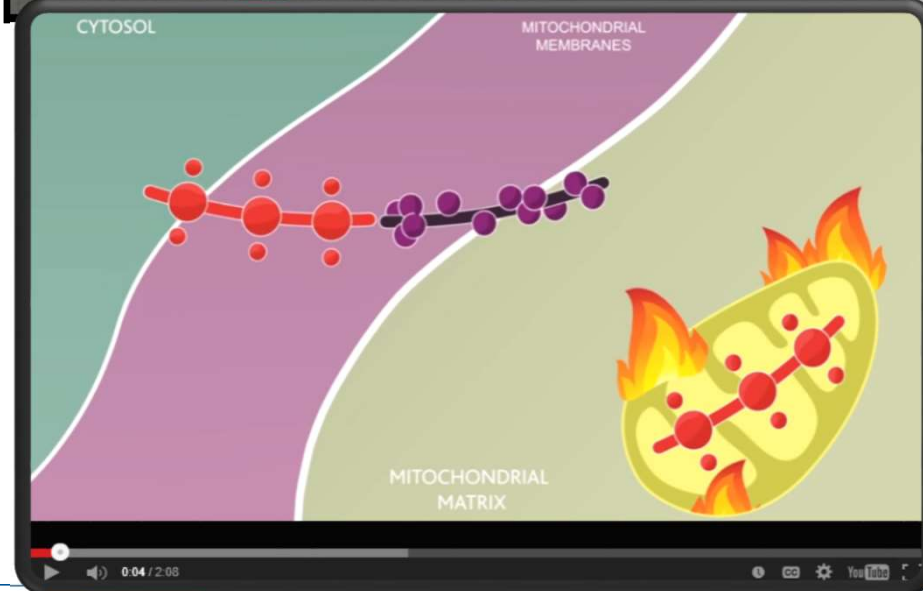
YOUR EXPERT GUIDE TO CARNIPURE L-CARNITINE



Carnipure

Videos

JIM STOPPANI EXPERT GUIDE L-CARNITINE WATCH THE VIDEO - 10:48



Education

Lonza



Why Carnipure® L-Carnitine?

Differentiation from Competition

■ Market Leader

- Lonza is the largest global manufacturer with largest production capacity in the industry
- 30+ years of experience (first sales in 1984 to infant nutrition)
- Supplier to all segments within health & nutrition industry (F&B, supplements, infant nutrition, animal nutrition)

■ Service

- Science - Lonza has developed and continues to invest in clinical research with over 45 studies published
- Safety – Lonza’s R&D and regulatory teams have worked to develop a comprehensive tox and safety package
- Regulatory – Lonza has a dedicated regulatory department with expertise in opening up new markets for L-Carnitine
- Regulatory – Lonza’s regulatory department has key contacts at government agencies to support customer inquiries
- Marketing – 30+ years marketing, selling, and educating on the benefits of Carnipure® L-Carnitine

■ Backward Integration

- The primary raw material used in the manufacturing process is made in a Lonza Swiss facility
- Lonza is the only L-Carnitine manufacturer using this raw material
- Backward integration allows for control over the supply chain ensuring a quality product with limited risk of impurities
- Proprietary production processes

■ Strict quality standards

- Strict specifications on raw material, intermediates and final products
- Closed production process and filling in a clean room
- Global quality organization, regularly audited internally and externally

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