

# I-Carnitine Fumarate

### **INTRODUCED 2004**

#### What Is It?

I-Carnitine is an amino acid found abundantly in skeletal and heart muscle. It functions primarily to support fat utilization by acting as a carrier of fatty acids into the mitochondria, where they are oxidized and converted to energy. I-Carnitine also facilitates the removal of short and medium chain fatty acids from the mitochondria that accumulate during normal metabolic processes. In studies, I-carnitine has demonstrated the ability to promote oxygenation of heart muscle and maintain healthy enzyme activity, support cardiovascular energy, enhance exercise recovery, and maintain healthy lipid metabolism. Fumarate, or fumaric acid, is an important compound, which is also naturally present in the body. As a component of the Krebs cycle (Citric Acid Cycle), fumaric acid plays a key role in generating energy. Combined, I-carnitine and fumarate provide dual support for energizing the heart and skeletal muscles.\*

#### **Uses For I-Carnitine Fumarate**

Cardiovascular Support: A randomized double-blind placebo-controlled trial involving 101 volunteers indicated that I-carnitine maintained healthy lipid peroxide and lactate dehydrogenase cardiac enzyme activity. I-Carnitine may also support ventricular function and superoxide dismutase enzyme activity. Long-term I-carnitine supplementation has demonstrated positive support for cardiovascular health after a 3-year follow-up in adult subjects. In a recent six-month, randomized, double-blind placebo-co trolled trial, I-carnitine supplementation supported healthy lipid metabolism in volunteers. In a metabolic analysis performed at George Washington University Medical Center, carnitine and fumarate provided synergistic cardioprotective support.\*

Support For Exercise Recovery: In a prospective doubleblind placebo-controlled trial, carnitine supplementation supported training for elite athletes. Additional studies suggest that I-carnitine promotes exercise recovery by moderating tissue damage, decreasing production of free radicals and reducing muscle soreness following exercise.\*

#### What Is The Source?

I-Carnitine fumarate is synthetically produced. It is patented worldwide by BIOSINT SpA (58.5% I-carnitine, 41.5% fumaric acid, US patent number 4,602,039). Hypo-allergenic plant fiber is derived from pine cellulose.

DuraCarn™ is a registered trademark of Sigma-DuraCarn™ Tau HealthScience, Inc. U.S. Patent pending.

#### Recommendations

Pure Encapsulations recommends 2-4 capsules per day, in divided doses, between meals.

# Are There Any Potential Side Effects Or Precautions?

At this time, there are no known side effects or precautions. If pregnant or lactating, consult your physician before taking this product.

## **Are There Any Potential Drug Interactions?**

At this time, there are no known adverse reactions when taken in conjunction with medications.

#### I-Carnitine Fumarate

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

