# DR. AUBURN'S ADVANCED NUTRITIONALS MITO-BOOST STRAWBERRY

### **CLINICAL APPLICATIONS**

- Recharges Cellular Energy Production
- Supports Immune Function
- Increases Antioxidant Protection
- Supports Detoxification Capacity

This product is a scientifically formulated blend of nutrients and protein, specifically designed to recharge cellular energy production, increase antioxidant protection, support detoxification capacity, and support immune function. Based on peer-reviewed, double-blind research, this product provides a unique blend of acetyl L-carnitine, alpha lipoic acid and N-acetyl cysteine. All have shown to support immune function and energy output. This product also includes key micronutrients and phytonutrients, including green tea, broccoli seed extract and resveratrol, to protect the mitochondria and continually recharge the cycle of energy production. The protein addition allows an ease of nutrition for those with immune challenges.

## Free Fatty Acids Acetyl L-Carnitine Alpha Lipoic Acid N-Acetyl Cysteine Free Radical Neutralization

### 1. Foundation—Micronutrient Essentials

Cellular energy production requires adequate nutritional cofactors. MitoCORE provides key micronutrients to ensure the cycle of energy production is established.

### 2. Ignition—The Power Trio

MitoCORE works by combining acetyl L-carnitine, alpha lipoic acid and N-acetyl cysteine to recharge cellular energy production and increase antioxidant protection.

### 3. Protection—Bioactive Phytonutrients

MitoCORE provides plant compound "signals" to stimulate proper mitochondrial function and guard against mitochondrial degeneration.

### **Overview**

The body's cells and organ systems depend on an adequate supply of energy to function optimally. The mitochondria, known as the power house of the cell, contain nutrients and enzymes that are important for recharging cellular energy production. Some of these enzymes convert food to usable energy in the form of adenosine triphosphate (ATP). ATP functions as the key source of energy for all cells. In order to increase mitochondrial output, there must be adequate fuel supply for combustion and abundant antioxidants to scavenge free radical by-products. Preserving energy reserves and increasing energy output is a critical part of maintaining optimal health.

Lack of sleep, too much stress, poor nutrition and prescription medications can draw on energy reserves, using them up faster than they can be replenished. Even the vital biologic systems can create an energy deficit that needs to be restored.

Some of the most energy demanding systems in the body are:

- · Liver detoxification
- Immune function
- Cardiovascular function
- Neurologic function

MitoCORE is scientifically formulated, based on published research, to boost mitochondrial reserves and recharge cellular energy production.¹ MitoCORE includes the powerful antioxidant trio of alpha lipoic acid, N-acetyl cysteine and acetyl L- carnitine, all shown torecharge cellular energy production and the primary cellular antioxidant pools of vitamins E and C and glutathione.

### Acetyl L-Carnitine<sup>†</sup>

Acetyl L-carnitine (ALC) is an amino acid that is associated recharged cellular energy production. It has been shown to increase the flow of free fatty acids, the fuel source for mitochondria, resulting in a significant boost in energy

production. With age, free radical production increases oxidative damage to the mitochondria, which can potentially decrease energy production. ALC has been shown to recharge cellular energy production and has been found, in combination with lipoic acid, to lower oxidative stress. <sup>2,3</sup> Studies have also shown that ALC supports immune function by protecting CD4 and CD8 immune cells and by supporting the reproduction of lymphocytes for the identification and elimination of invading antigens.<sup>4,5</sup>

## N-Acetyl Cysteine<sup>†</sup>

N-acetyl cysteine (NAC) is an antioxidant that scavenges free radicals and supports detoxification capacity.<sup>6</sup> NAC has been shown to increase production of glutathione, an important antioxidant found in the body.<sup>6</sup> In addition to its antioxidant activity, glutathione supports immune function by activating T-cells.<sup>7</sup>

### Alpha Lipoic Acid†

Alpha lipoic acid (ALA) is an antioxidant and also plays a synergistic role in recharging other antioxidants such as vitamin C, vitamin E, CoQ<sub>10</sub> and glutathione. Lipoic acid also plays a key role in supporting detoxification capacity.<sup>8</sup> Studies have shown that a combination of ALA and ALC helps minimize oxidative damage.<sup>9,10</sup> Oxidative stress causes damage to DNA, RNA, proteins, mitochondrial membranes and lipids, and contributes to the functional decline of mitochondria, cells, tissues and eventually organs such as the brain.<sup>9,10</sup>

### Resveratrol<sup>†</sup>

Resveratrol is a polyphenol molecule found in many plant species, including grapes and cranberries, and is found in high concentrations in wine. Polyphenols act as antioxidants that protect plants from damage that can be caused by bacteria, fungi and radiation.<sup>11</sup> Resveratrol is believed to be the dietary factor behind the "French Paradox," which is the high rate of cardiovascular wellness in the French population, despite their high fat intake. In addition to its antioxidant properties and support for cardiovascular function, resveratrol has been shown to support immune function.<sup>11</sup>

### Broccoli Seed Extract<sup>†</sup>

Broccoli seed extract contains a high amount of glucoraphanin, a compound that is a precursor to sulphoraphane. Sulphoraphane is an antioxidant and supports detoxification capacity and immune response. Sulphoraphane has been shown to induce Phase II detoxification enzymes and raise intracellular glutathione levels.<sup>12</sup>

### Green Tea (EGCG)†

Green tea polyphenols have demonstrated significant antioxidant, probiotic- and immune-supporting properties. The hydroxyl group of green tea polyphenols increases antioxidant protection by forming complexes with free radicals and neutralizing them, minimizing oxidative damage throughout the body. Green tea polyphenols also stimulate the activity of liver detoxification enzymes, supporting detoxification capacity. Is

### The Micronutrient "Backbone" †

To recharge cellular energy production efficiently, optimal levels of critical nutrients and enzyme cofactors must be achieved. MitoCORE provides an optimized backbone of vitamins and minerals necessary for increasing energy output and meeting daily nutritional needs.

### Rice Protein<sup>†</sup>

Rice protein is a valuable source of branched chain amino acids leucine, isoleucine and valine. These amino acids reduce the breakdown of protein and stimulate protein synthesis. In animal studies, rice protein was shown to support heart function, healthy cholesterol levels and insulin sensitivity, reducing the negative impact of the Western diet fed to these animals.<sup>14-16</sup>

### **Directions**

Mix 1 scoop of this product with 8-10 ounces of the beverage of your choice to the desired thickness, once daily or as recommended by your health care professional.

### **Does Not Contain**

Gluten, yeast, artificial colors and flavors.

### **Cautions**

If you are pregnant or nursing, consult your physician before taking this product.

### Supplement Facts Serving Size 1 Scoop (29.6 Grams) Servings Per Container 14 Amount Per % Daily 1 scoop contains Serving Value Calories 120 4%\* Total Fat Saturated Fat 2.5 g 13%\* 3%\* Total Carbohydrate 4%\* Dietary Fiber \*\* Total Sugars 3 g 4%\* Includes 2 g Added Sugars 15 g 30%\* Protein 1,500 mcg 167% Vitamin A (from 5,000 IU as Natural Beta Carotene) 278% Vitamin C (as Calcium Ascorbate USP) 250 mg Vitamin D (D3 as Cholecalciferol) 25 mcg (1,000 IU) 125% 15 mg 1,250% Thiamin (Vitamin B1) (from Thiamine Hydrochloride USP) Riboflavin (Vitamin B2 USP 15 mg 1,154% 15 mg 94% Niacin (as Niacinamide USP 882% Vitamin B6 15 mg (as Pyridoxine Hydrochloride USP) Folate (from 800 mcg Quatrefolic 1,360 mcg DFE 340% (6S)-5-Methyltetrahydrofolic acid glucosamine salt) 10,417% Vitamin B12 (as Methylcobalamin) 250 mcg Biotin 50 mcg 167% 300% Pantothenic Acid (as d-Calcium Pantothenate USP) Choline (as Choline Bitartrate) 15 ma 6% Calcium Calcium 75 mg (as Calcium Citrate USP, Calcium Ascorbate USP) 0.4 mg 2% lodine (from Potassium lodide) 25% 37 mcg 75 mg Magnesium (as DiMagnesium Malate) 18% Zinc (as TRAACS® Zinc Bisglycinate Chelate) 5 mg 45% 136% Selenium (as Selenium Glycinate Complex) 75 mcg Manganese 1 r (as TRAACS® Manganese Bisglycinate Chelate) 43% 1 mg 143% 50 mcg Chromium (as O-polynicotinate)3 Sodium 40 mg 2% <1% Potassium (as Potassium Citrate USP 30 mg Rice Proteir 8.8 g Medium Chain Triglycerides \*\* N-Acetyl-L-Cysteine USP 600 mg Acetyl L-Carnitine Hydrochloride 500 mg \*\* Alpha Lipoic Acid 200 mg \*\* Malic Acid (as DiMagnesium Malate) 185 mg 50 mg Mixed Tocopherols Green Tea Leaf Extract 45 mg (Standardized to contain 45% EGCg (Epigallocatechin gallate)) 40 mg Broccoli Seed Extract (TrueBroc®) Standardized to contain 13% Glucoraphanin) 15 mg Inositol NF trans-Resveratrol 10 mg from Polygonum cuspidatum (Roots))

### References

\*\* Daily Value not established

Percent Daily Values are based on a 2,000 calorie diet.

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