

# Mitochondrial Bioenergetics

Preserving the Core of Cellular Energy Production



## THE ENERGY PARADOX

Cellular energy production is a delicate balance. The mitochondria generate 90% of the body's energy supply and 90% of the free radical burden. Increased stress, poor nutrition, negative lifestyle factors, and exposure to toxins alter mitochondrial function, tipping the balance toward free radical production. These volatile molecules damage proteins, nucleic acids, and lipids, causing cellular injury and accelerated aging. When the mitochondria malfunction due to free radical-induced stress, energy production plummets and cell function declines.

## THE VICIOUS CYCLE OF MITOCHONDRIAL DECLINE

### TRIGGERS OF DECLINE

- Stress
- Poor Nutrition
- Negative Lifestyle Factors
- Toxins
- Aging

### DECREASED EFFICIENCY

- ↑ Oxidative Stress
- ↑ Free Radical Production
- ↓ Oxidative Phosphorylation

### DYSFUNCTION

- ↓ Mitochondrial Membrane Potential
- ↓ ATP Synthesis
- ↑ Mitochondrial Uncoupling and Heat Production

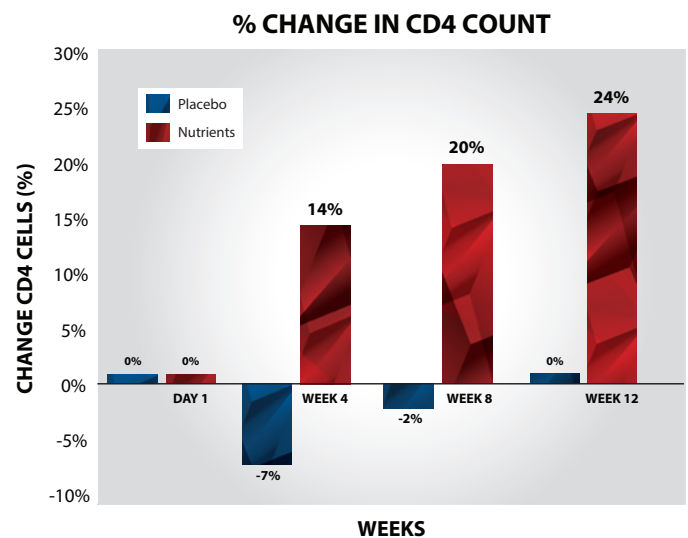


### DAMAGE

- ↑ Mitochondrial DNA (mtDNA) Corruption
- ↑ Lipid Oxidation
- ↑ Protein Damage

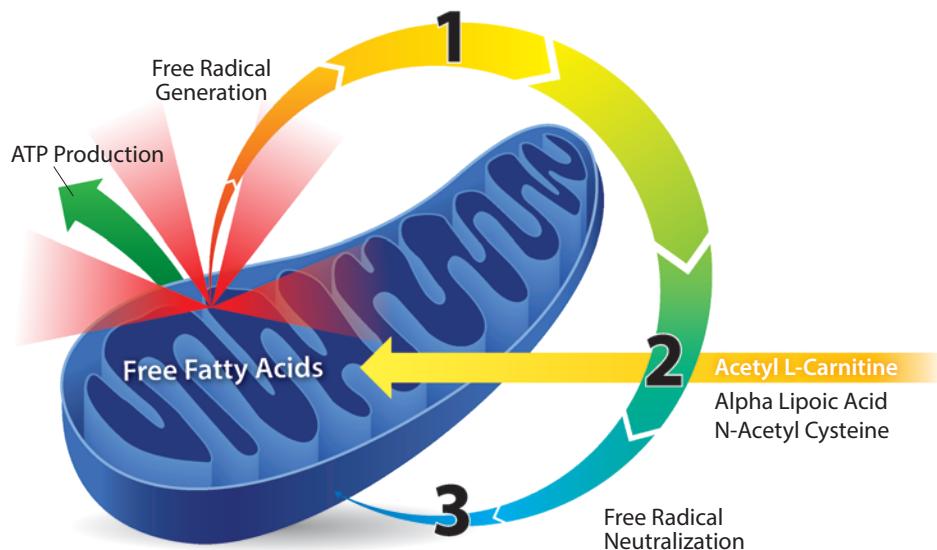
Decreased cellular energy is an underlying cause of many health challenges. Emerging research continues to highlight the importance of targeted nutritional strategies for boosting energy production and preserving mitochondrial function to enhance health. This was recently demonstrated in the following double-blind, placebo-controlled study, which used immune vitality as a marker of mitochondrial health.

After only 12 weeks, the targeted micronutrient group demonstrated a 24% increase in CD4 cell count, an important marker of immune strength.<sup>1</sup> This dramatic improvement indicates increased energy availability for enhanced immune activity and regeneration.



<sup>1</sup>Kaiser, J.D.; Campa, A.M. et al. Micronutrient supplementation increases CD4 count in HIV-infected individuals on highly active antiretroviral therapy: a prospective, double-blinded, placebo-controlled trial. *J Acquir Immune Defic Syndr.* 2006; 42(5):523-528.

# MITOCORE



### 1. Foundation—Micronutrient Essentials

Oxidative phosphorylation requires adequate nutritional cofactors. Mitocore provides key micronutrients to ensure the cycle of energy production is established.

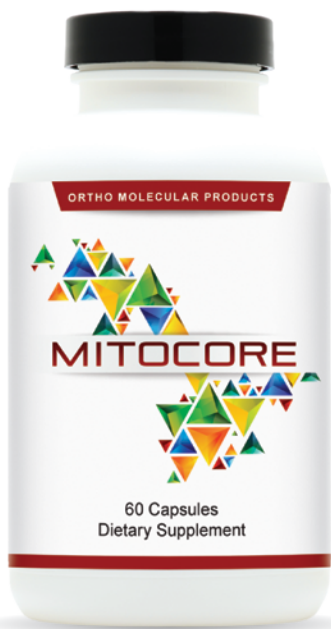
### 2. Ignition—The Power Trio

Mitocore works by combining active doses of acetyl L-carnitine, alpha lipoic acid, and N-acetyl cysteine to ignite oxidative phosphorylation and neutralize free radical by-products.

### 3. Protection—Bioactive Phytonutrients

Mitocore provides plant compound “signals” to stimulate proper mitochondrial function and guard against mitochondrial degeneration.

Mitocore is a targeted, science-based nutritional strategy to renew the cycle of energy production.



## Supplement Facts

Serving Size 4 Capsules  
Servings Per Container 15 & 30

4 capsules contain	Amount Per Serving	% Daily Value	4 capsules contain	Amount Per Serving	% Daily Value
Vitamin A (from 5,000 IU as Natural Beta Carotene)	1,500 mcg	167%	Selenium (as Selenium Glycinate Complex)	75 mcg	136%
Vitamin C (as Ascorbic Acid USP)	250 mg	278%	Manganese (as TRAACS® Manganese Bisglycinate Chelate)	1 mg	43%
Vitamin D (D3 as Cholecalciferol)	25 mcg (1,000 IU)	125%	Chromium (as O-polynicotinate)*	50 mcg	143%
Thiamin (Vitamin B1) (from Thiamine Hydrochloride USP)	15 mg	1,250%	Potassium (as Potassium Citrate USP)	30 mg	<1%
Riboflavin (Vitamin B2 USP)	15 mg	1,154%	N-Acetyl-L-Cysteine USP	600 mg	*
Niacin (as Niacinamide USP)	15 mg	94%	Acetyl L-Carnitine Hydrochloride	500 mg	*
Vitamin B6 (as Pyridoxine Hydrochloride USP)	15 mg	882%	Malic Acid (as DiMagnesium Malate)	215 mg	*
Folate (from 800 mcg as Quatrefolic® (6S)-5-Methyltetrahydrofolic acid glucosamine salt)	1,360 mcg DFE	340%	Alpha Lipoic Acid	200 mg	*
Vitamin B12 (as Methylcobalamin)	250 mcg	10,417%	Mixed Tocopherols	50 mg	*
Biotin	50 mcg	167%	Green Tea Leaf Extract (Standardized to contain 45% EGCG (Epigallocatechin gallate))	45 mg	*
Pantothenic Acid (as d-Calcium Pantothenate USP)	15 mg	300%	Broccoli Seed Extract (TrueBroc®) (Standardized to contain 13% Sulfuraphane Glucosinolate)	40 mg	*
Choline (as Choline Bitartrate)	15 mg	3%	Inositol NF	15 mg	*
Calcium (as Calcium Citrate USP)	75 mg	6%	trans-Resveratrol (from Polygonum cuspidatum (Roots))	10 mg	*
Iodine (from Potassium Iodide)	37 mcg	25%			
Magnesium (as DiMagnesium Malate)	75 mg	18%			
Zinc (as TRAACS® Zinc Bisglycinate Chelate)	5 mg	45%			

#### Capsules (shown above)

ID# 117060 60 Capsules  
ID# 117120 120 Capsules

#### Protein Blend

ID# 170001 Strawberry 414.4 grams  
ID# 171001 Lemon 414.4 grams

#### SUGGESTED USE:

**Capsules:** 2-4 capsules per day or as recommended by your health care professional.

**Protein Blend:** Mix 2 scoops of MITOCORE with 8-10 ounces of water or to the desired thickness once daily or as recommended by your health care professional.

## ALSO AVAILABLE:



Based on the same trusted formula, Mitocore Protein Blend provides key energy-enhancing nutrients in a nourishing base of easy-to-digest protein from brown rice for better cellular nutrition.

**4 capsules = 2 scoops**

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