OPTIMIZE CELLULAR NUTRITION.
MAXIMIZE YOUR PERFORMANCE.

MENTAL FOCUS + BRAIN INJURY PROTECTION

MINIMIZE OXIDATIVE STRESS

IMMUNITY + HORMONE REGULATION

BOOST CELLULAR ENERGY

ACCELERATE MUSCLE RECOVERY

SpectraCell Laboratories
Science + Health + Solutions

The Role of **CELLULAR NUTRITION** in **SPORTS PERFORMANCE**

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Athletes care about performance—speed, strength, and precision. As they push themselves to their physical and mental limits, their cells are what propels them toward their goal. Nourish the cells to tap peak athletic potential. When cells perform optimally—absorbing, metabolizing, repairing, building—the athlete will feel it.

By nourishment, we mean micronutrients—quite literally, physical and metabolic optimization at its finest. While athletes recognize the importance of macronutrients—protein, carbohydrates, and fats—micronutrients are often overlooked. Micronutrients can give cells a quantum leap forward, in terms of performance. The cumulative effect of that is strength, speed, endurance and focus—the hallmarks of an exceptional athlete.

vitamins *minerals* *antioxidants*

ACCELERATE MUSCLE RECOVERY

- **Vitamin C + Carnitine:** reduces post-exercise muscle soreness and minimizes muscle damage
- **Asparagine + Carnitine:** delays muscle fatigue by improving endurance
- **Folic Acid:** improves smooth muscle function

BOOST CELLULAR ENERGY

Inside every cell, there is a "powerhouse" known as a mitochondrion, whose primary function is to generate energy. Mitochondria need copious amounts of micronutrients to power muscles, nerves and the heart. A single deficiency can compromise the way mitochondria fuel muscles, leading to decreased endurance or strength.

- **Carnitine, Lipoic Acid, CoQ10:** serve as critical cofactors for mitochondrial function
- **B Vitamins:** directly impact energy pathways in mitochondria
- **Vitamin E:** protects ATP, the "energy currency" of our bodies
- **Vitamin A:** helps maintain cellular equilibrium when energy ramps up
- **Vitamin K:** helps harness the energy once it is created

MINIMIZE OXIDATIVE STRESS

Intense physical training generates substantial oxidative stress. Therefore, maximizing antioxidant status in athletes is critical in order to heal post-workout damage.

- **Vitamin C + Cysteine:** help prevent exercise induced damage to cells
- **Vitamin E:** protects cell membranes during strenuous activity and reduces the number of damaging compounds in the blood

SpectraCell's Spectrox®, a component of the Micronutrient test, measures total antioxidant function, enabling athletes to monitor cellular "wear and tear" and develop a targeted supplementation regimen based on their individual needs.

MENTAL FOCUS and BRAIN INJURY PROTECTION

DHA, a type of fatty acid, stimulates growth of healthy neuronal tissue in response to injury which protects against concussion.

The effects of Omega-3 fatty acids go beyond concussion protection. Studies show Omega-3 fats can also improve lung capacity, reaction time, and mood in athletes.

IMMUNITY and HORMONE REGULATION

Evidence suggests that while moderate exercise is associated with improved glutamine function, exhaustive training programs induce glutamine deficiency, resulting in decreased immunity.

Nutrients affect hormone levels as well. Studies show that serine decreases post-exercise cortisol levels, reduced muscle soreness and minimize psychological depression that often accompanies overtraining.

A PERSONALIZED APPROACH

An athlete's micronutrient requirements may fluctuate widely depending on intensity and duration of training, and even with a superb diet, deficiencies often exist. **SpectraCell's Micronutrient Test** measures 31 nutritional components, but goes even further—it measures long-term, functional performance of your cells for unparalleled insights to help determine what your body needs to maximize health and meet desired athletic outcomes.