

**WHAT CONDITIONS CAN BE AFFECTED BY NUTRIENT STATUS?**

- Diabetes
- Fatigue
- Mood Disorders
- Weight Management
- Sports Nutrition
- Osteoporosis
- Cardiovascular Disease
- Migraines
- Women's Health
- Hypertension
- Inflammation
- Stress Tolerance
- Many other common conditions

Overwhelming evidence reveals that micronutrient deficiencies are associated with inflammation and chronic disease, therefore affecting physical and mental health, and ultimately, quality of life.

**TEST COMPONENTS:**

**VITAMINS**

- Vitamin A
- Vitamin B1
- Vitamin B2
- Vitamin B3
- Vitamin B6
- Vitamin B12
- Vitamin C
- Vitamin D
- Vitamin K
- Biotin
- Folate
- Pantothenate

**MINERALS**

- Calcium
- Magnesium
- Zinc
- Copper
- Manganese

**AMINO ACIDS**

- Asparagine
- Glutamine
- Serine

**ANTIOXIDANTS**

- Alpha Lipoic Acid
- Coenzyme Q10
- Cysteine
- Glutathione
- Selenium
- Vitamin E

**CARBOHYDRATE METABOLISM**

- Chromium
- Fructose Sensitivity
- Glucose-Insulin Metabolism

**FATTY ACIDS**

- Oleic Acid

**METABOLITES**

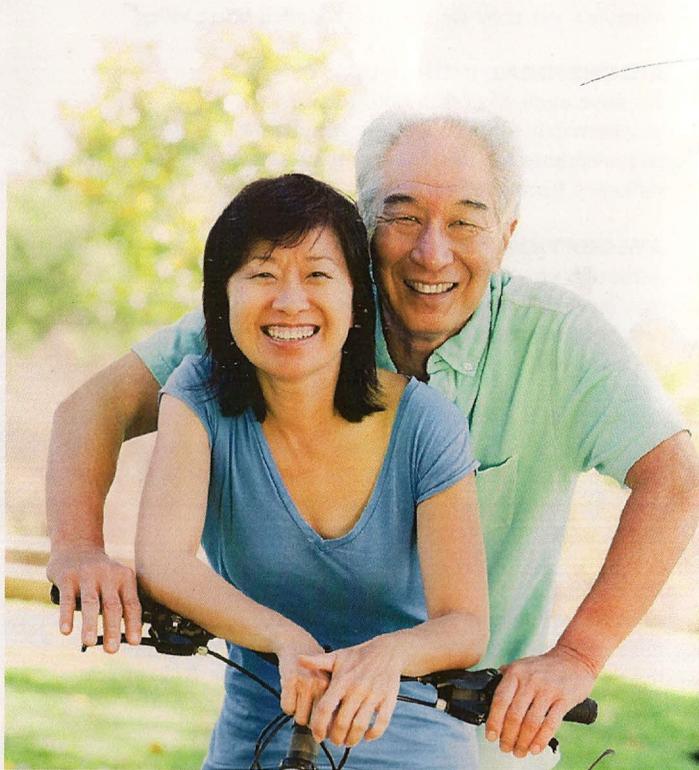
- Choline
- Inositol
- Carnitine

**IMMUNIDEX™ Immune Response Score**

**SPECTROX®**  
FOR TOTAL  
ANTIOXIDANT FUNCTION

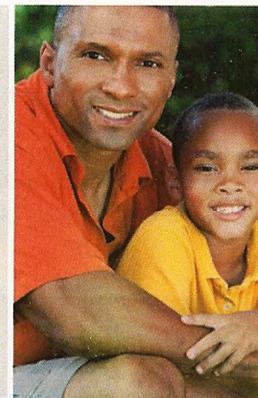
# Micronutrient Testing

Get your micronutrient test today – it may be the most important decision you make about your health.



*Welle ft, ha...*

# Micronutrient Testing



Are you getting the nutrients you need?



**SpectraCell Laboratories**  
Science + Health + Solutions

### WHY IS NUTRIENT STATUS IMPORTANT?

Vitamin, mineral and antioxidant deficiencies have been shown to suppress immune system function, which can contribute to a variety of degenerative processes such as arthritis, cancer, cardiovascular disease, and diabetes, to name a few. You may be micronutrient deficient and not even know it!

University research shows that **50% of people taking multivitamins are nutritionally deficient, despite supplementation!**

### STANDARD SERUM TESTS MEASURE NUTRIENT LEVELS, BUT THEY DO NOT PROVIDE INFORMATION ABOUT HOW WELL NUTRIENTS ARE ACTUALLY BEING UTILIZED.

SpectraCell Laboratories' exclusive, patented micronutrient test measures intracellular vitamin, mineral, antioxidant, and amino/fatty acid status within your white blood cells, which does convey how well nutrients are utilized at the cellular level. Our innovative micronutrient test is therefore a more meaningful measure of nutrient status than all other nutritional testing.



# But I eat a balanced diet, exercise and take a multivitamin...

If this statement describes all or part of your lifestyle, read on. Many people lead healthy lifestyles, yet they struggle with deficiencies. Why?

#### BIOCHEMICAL INDIVIDUALITY

Because each of us is metabolically and biochemically unique, the micronutrient requirements for one person may be quite different from the requirements of another.

#### ABSORPTION

Although you may eat a balanced diet, you may have micronutrient deficiencies if you do not properly absorb vitamins, minerals and/or antioxidants.

#### CHRONIC ILLNESS

Health conditions such as arthritis, cancer, cardiovascular disease, diabetes, fatigue and multiple sclerosis, to name a few, can be affected, directly or indirectly, by micronutrient deficiencies.

#### AGING

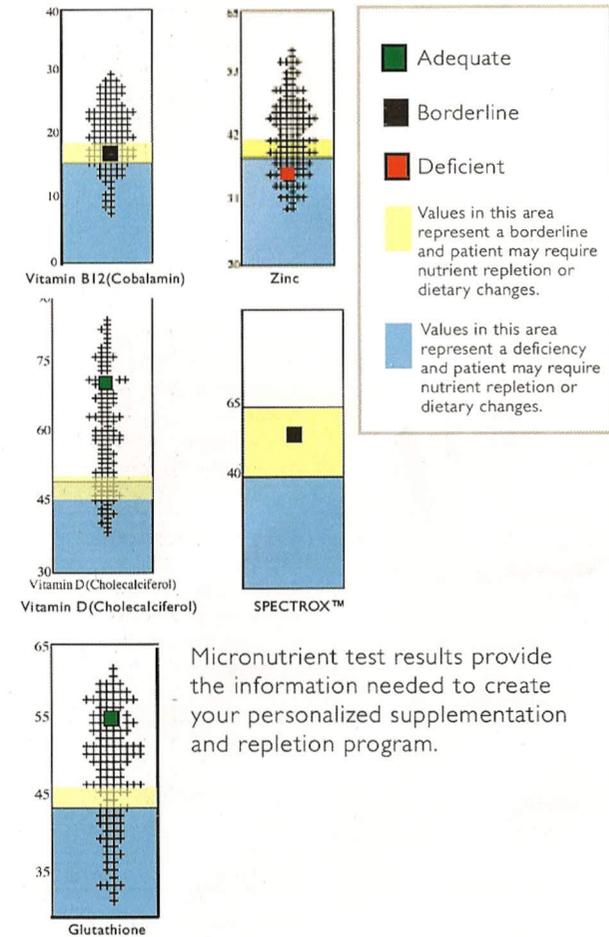
Our micronutrient requirements at age 30 are quite different from our requirements at ages 40, 50, and beyond. Reduced absorption (for example, B12) is common as we age.

#### LIFESTYLE

Excessive physical activity, prescription drugs, smoking, alcohol, sedentary habits, and physical/emotional/environmental stressors all impact micronutrient status and demands.



### Sample Results



Micronutrient test results provide the information needed to create your personalized supplementation and repletion program.

ASK YOUR PROVIDER FOR MORE INFORMATION TODAY!

www.SpectraCell.com | 800.227.5227

# Nutrient Functions | Deficiency Symptoms

## Micronutrient Testing

NUTRIENT	POTENTIAL	WHAT IT DOES	WHERE IT'S FOUND	SYMPTOMS AND PROBLEMS
VITAMIN B1	VERY COMMON	Carb. conversion, breaks down fats & protein, digestion, nervous system, skin, hair, eyes, mouth, liver, immune system	Pork, organ meats, whole grain and enriched cereals, brown rice, wheat germ, bran, Brewer's yeast, blackstrap molasses	Heart, age-related cognitive decline, Alzheimer's, fatigue
VITAMIN B2	VERY COMMON	Metabolism, carb. conversion, breaks down fats & protein, digestion, nervous system, skin, hair, eyes, mouth, liver	Brewer's yeast, almonds, organ meats, whole grains, wheat germ, mushrooms, soy, dairy, eggs, green vegetables	Anemia, decreased free radical protection, cataracts, poor thyroid function, B6 deficiency, fatigue, elevated homocysteine
VITAMIN B3	LESS COMMON	Energy, digestion, nervous system, skin, hair, eyes, liver, eliminates toxins, sex/stress hormones, improves circulation	Beets, Brewer's yeast, meat, poultry, organ meats, fish, seeds, nuts	Cracking, scaling skin, digestive problems, confusion, anxiety, fatigue
VITAMIN B6	COMMON	Enzyme, protein metabolism, RBC production, reduces homocysteine, nerve & muscle cells, DNA/RNA, B12 absorption, immune function	Poultry, tuna, salmon, shrimp, beef liver, lentils, soybeans, seeds, nuts, avocados, bananas, carrots, brown rice, bran, wheat germ, whole grain flour	Depression, sleep and skin problems, confusion, anxiety, fatigue
VITAMIN B12	VERY COMMON	Healthy nerve cells, DNA/RNA, red blood cell production, iron function	Fish, meat, poultry, eggs, milk, milk products	Anemia, fatigue, constipation, loss of appetite/weight, numbness and tingling in the hands and feet, depression, dementia, poor memory, oral soreness
BIOTIN	LESS COMMON	Carbs, fat, amino acid metabolism (the building blocks of protein)	Salmon, meats, vegetables, grains, legumes, lentils, egg yolks, milk, sweet potatoes, seeds, nuts, wheat germ	Depression, nervous system, premature graying, hair, skin
FOLATE	VERY COMMON	Mental health, infant DNA/RNA, adolescence & pregnancy, with B12 to regulate RBC production, iron function, reduce homocysteine	Supplementation, fortified grains, tomato juice, green vegetables, black-eyed peas, lentils, beans	Anemia, immune function, fatigue, insomnia, hair, high homocysteine, cardiovascular disease
PANTOTHENATE	LESS COMMON	RBC production, sex and stress-related hormones, immune function, healthy digestion, helps use other vitamins	Meat, vegetables, whole grains, legumes, lentils, egg yolks, milk, sweet potatoes, seeds, nuts, wheat germ, salmon	Stress tolerance, wound healing, skin problems, fatigue
VITAMIN A	LESS COMMON	Eyes, immune function, skin, essential cell growth and development	Milk, eggs, liver, fortified cereals, orange or green vegetables, fruits	Night blindness, immune function, zinc deficiency, fat malabsorption
VITAMIN C	COMMON	Enzyme activation, second messenger roles (transmitting hormonal information), blood clotting, cell and cell organelle membrane function, nerve impulse transmission and muscular contraction, tone and irritability	Supplementation, broccoli, brussel sprouts, cantaloupe, cauliflower, citrus, guava, kiwi, papaya, parsley, peas, potatoes, peppers, rose hips, strawberries and tomatoes	Muscular and nervous irritability, muscle spasms, muscle cramps and tetany, tooth decay, periodontal disease, depression, possibly hypertension
VITAMIN D	VERY COMMON	Calcium and phosphorus levels, calcium absorption, bone mineralization	Sunlight, milk, egg yolks, liver, fish	Osteoporosis, calcium absorption, thyroid
VITAMIN K	LESS COMMON	Aids in the formation of clotting factors and bone proteins and the formation of glucose into glycogen for storage in the liver	Kale, green tea, turnip greens, spinach, broccoli, lettuce, cabbage, beef liver, asparagus, watercress, cheese, oats, peas, whole wheat	Excessive bleeding, a history of bruising, appearance of ruptured capillaries or menorrhagia (heavy periods)

© 2015 SpectraCell Laboratories, Inc. All rights reserved. DOC 303 4.15

# Nutrient Functions | Deficiency Symptoms

## Micronutrient Testing

NUTRIENT	POTENTIAL	WHAT IT DOES	WHERE IT'S FOUND	SYMPTOMS AND PROBLEMS
VITAMIN E	VERY COMMON	Antioxidant, regulates oxidation reactions, stabilizes cell membrane, immune function, protects against cardiovascular disease, cataracts, macular degeneration	Wheat germ, liver, eggs, nuts, seeds, cold - pressed vegetable oils, dark leafy greens, sweet potatoes, avocados, asparagus	Skin, hair, rupturing of red blood cells, anemia, bruising, PMS, hot flashes, eczema, psoriasis, cataracts, wound healing, muscle weakness, sterility
CALCIUM	VERY COMMON	Bones, teeth, helps heart, nerves, muscles, body systems work properly, needs other nutrients to function	Dairy, wheat/soy flour, molasses, Brewer's yeast, Brazil nuts, broccoli, cabbage, dark leafy greens, hazelnuts, oysters, sardines, canned salmon	Osteoporosis, osteomalacia, osteoarthritis, muscle cramps, irritability, acute anxiety, colon cancer risk
CHROMIUM	COMMON	Assists insulin function, increases fertility, carbohydrate/fat metabolism, essential for fetal growth/development	Supplementation, Brewer's yeast, whole grains, seafood, green beans, broccoli, prunes, nuts, potatoes, meat	Metabolic syndrome, insulin resistance, decreased fertility
MAGNESIUM	VERY COMMON	300 biochemical reactions, muscle/nerve function, heart rhythm, immune system, strong bones, regulates calcium, copper, zinc, potassium, vitamin D	Green vegetables, beans, peas, nuts, seeds, whole unprocessed grains	Appetite, nausea, vomiting, fatigue cramps, numbness, tingling, seizures, heart spasms, personality changes, heart rhythm
SELENIUM	COMMON	Antioxidant, works with vitamin E, immune function, prostaglandin production	Brewer's yeast, wheat germ, liver, butter, cold water fish, shellfish, garlic, whole grains, sunflower seeds, Brazil nuts	Destruction to heart/pancreas, sore muscles, fragility of red blood cells, immune system
ZINC	MOST COMMON	Supports enzymes, immune system, wound healing, taste/smell, DNA synthesis, normal growth & development during pregnancy, childhood and adolescence	Oysters, red meat, poultry, beans, nuts, seafood, whole grains, fortified breakfast cereals, dairy	Growth retardation, hair loss, diarrhea, impotence, eye & skin lesions, loss of appetite, taste, weight loss, wound healing, mental lethargy
CO Q10	COMMON	Powerful antioxidant, stops oxidation of LDL cholesterol, energy production, important to heart, liver and kidneys	Oily fish, organ meats, whole grains	Congestive heart failure, high blood pressure, angina, mitral valve prolapse, fatigue, gingivitis, immune system stroke, cardiac arrhythmias
CARNITINE	LESS COMMON	Energy, heart function, oxidize amino acids for energy, metabolize ketones	Red meat, dairy, fish, poultry, tempeh (fermented soybeans), wheat, asparagus, avocados, peanut butter	Elevated cholesterol, liver function, muscle weakness, reduced energy, impaired glucose control
N - ACETYL CYSTEINE (NAC) & GLUTATHIONE	MOST COMMON	Glutathione production, lowers homocysteine, lipoprotein (a), heal lungs, inflammation, decrease muscle fatigue, liver detoxification, immune function	Meats, ricotta, cottage cheese, yogurt, wheat germ, granola, oat flakes	Free radical overload, elevated homocysteine, cancer risk, cataracts, macular degeneration, immune function, toxin elimination
ALPHA LIPOIC ACID	COMMON	Energy, blood flow to nerves, glutathione levels in brain, insulin sensitivity, effectiveness of vitamins C, E, antioxidants	Supplementation, spinach, broccoli, beef, Brewer's yeast, some organ meats	Diabetic neuropathy, reduced muscle mass, atherosclerosis, Alzheimer's, failure to thrive, brain atrophy, high lactic acid
COPPER	LESS COMMON	Bone formation, involved in healing process, energy production, hair and skin coloring, taste sensitivity, stimulates iron absorption, helps metabolize several fatty acids	Oysters, seeds, dark leafy vegetables, organ meats, dried legumes, whole grain breads, nuts, shellfish, chocolate, soybeans, oats, blackstrap molasses	Osteoporosis, anemia, baldness, diarrhea, general weakness, impaired respiratory function, myelopathy, decreased skin pigment, reduced resistance to infection

© 2015 SpectraCell Laboratories, Inc. All rights reserved. DOC 303 4.15