Nutritional Support for Long Haul COVID

Dr. Debby Hamilton, MD, MPH

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
Risk Factors for Post COVID (Long Haul) Symptoms

- More severe COVID infection with hospitalization
- All people exposed at risk
- Five early symptoms
- Early Dyspnea
- Prior psychiatric disorders
- Specific biomarkers: Elevated D-dimer, CRP, Lymphocyte count
- Increased age


These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
Post COVID Syndrome Definition

- Long Haul COVID: symptoms that persist 4 weeks after infection from people with serious COVID to asymptomatic COVID infection.

- Effects from hospitalization treatment: post intubation, muscle loss, PTSD, etc.

- Multi-organ symptoms from COVID including autoimmune, Multisystem Inflammatory Syndrome (MIS).


These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
<table>
<thead>
<tr>
<th>Symptom</th>
<th>CDC (shaded)</th>
<th>Long Hauler</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatigue</td>
<td>Shaded</td>
<td>Yes</td>
</tr>
<tr>
<td>Muscle or body aches</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Shortness of breath or difficulty breathing</td>
<td>Shaded</td>
<td>Yes</td>
</tr>
<tr>
<td>Difficulty concentrating or focusing</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Inability to exercise or be active</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Headache</td>
<td>Shaded</td>
<td>Yes</td>
</tr>
<tr>
<td>Difficulty sleeping</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Anxiety</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Memory problems</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Dizziness</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Persistent chest pain or pressure</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Cough</td>
<td>Shaded</td>
<td>Yes</td>
</tr>
<tr>
<td>Joint pain</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Heart palpitations</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Sore throat</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Night sweats</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Partial or complete loss of sense of smell</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Tachycardia</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Fever or chills</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Hair loss</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Blurry vision</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Congested or runny nose</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Sadness</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Neuropathy in feet and hands</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
Cardiovascular Issues

- Vascular inflammation
- Endothelial damage
- Systemic microangiopathy
- Blood clotting: inflammation induced
- Stroke
- Elevated fibrinogen
- Elevated D-dimer
- Right ventricular dysfunction
- Myocarditis
- Pericarditis


These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
### Neurologic Issues

**Neuro-Post-Acute Sequelae of SARS-COV2 Infection (Neuro-PASC)**


These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
Fatigue: Definition: “the decrease in physical and/or mental performance that results from changes in central, psychological, and/or peripheral factors due to the COVID-19 disease”

- Causes: still investigating
- Changes in neurotransmitter levels
- Inflammation
- Stress and anxiety
- Physical deconditioning
- Substrate metabolism/availability: mitochondrial function
- Persistent viral infection


These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
Long COVID19 victims share symptoms with Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS) patients

- Headache
- Sore Throat
- Swollen Glands
- Muscle pain
- Gastrointestinal Distress
- Joint pain
- Night sweats
- Post-Exertional Malaise
- Unrefreshing sleep

- 4 or 5 of these symptoms diagnose ME/CFS: shared by Long COVID19
- Additional symptoms shared by ME/CFS and Long COVID19

Institute of Medicine clinician’s guide to ME/CFS:


Symptoms of Long COVID19 not like ME/CFS:

- Shortness of breath
- Chest pain/pressure
- Cough
- Heart palpitations
- Reduced sense of smell
- Rash
- Tinnitus

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
LYME DISEASE IN THE AGE OF COVID-19
Multisystem Inflammatory Syndrome in Children (MIS-C)

- Overlapping symptoms with Kawasaki disease (KD), toxic shock syndrome (TSS), and acute rheumatic fever
- Signs and Symptoms: fever, systemic inflammation, abdominal pain and cardiac involvement
- Post-acute immune reaction
- Negative PCR, Positive SARS-COV2 AB’s
- Treatment: IVIG and steroids

Pathology of COVID and Post-COVID Illness: Summary

- Inflammation
- Oxidative Stress
- Mitochondrial dysfunction
- Anti-oxidant depletion
- Immune dysregulation
- Direct tissue damage
- Persistent low-grade infection
- Possible Reactivation of chronic infections

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
These clinical observations and a growing body of experimental data suggest that the host response to infection rather than direct viral injury of respiratory cells primarily accounts for the clinical and pathologic changes observed during respiratory viral infections.

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
Inflammation in COVID

- IL-1β, IL-6, IL-8, and TNF increased in COVID
  - Pro-inflammatory
- Higher levels of these cytokines than in other pneumonias
- Decreased levels of IL-10
  - Anti-inflammatory
- Neutrophils with altered immunometabolism

- McElvaney OJ. Et al. Characterization of the Inflammatory Response to Severe COVID-19 Illness

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
Oxidative Stress


These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
Lung diseases associated with glutathione deficiency

- Acute lung injury/acute respiratory distress syndrome
- Chronic bronchitis
- Chronic obstructive pulmonary disease
- Cystic fibrosis
- Idiopathic pulmonary fibrosis
- Various bacterial and viral infections (including AIDS)
- Toxicity of various foreign compound (smoke, pollutants, drugs ...)


These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
Mitochondrial Dysfunction

- Mitochondrial hijacking by SARS-COV-2 virus
- Increase in glycolysis and use of glucose as primary fuel in the mitochondria: metabolic disturbance from virus
- Increase in mitokines such as fibroblast growth factor in mononuclear cells
- Impacts innate immunity


These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
Mitochondrial Dysfunction

- Damaged mitochondrial membranes = no energy
- Membranes damaged by inflammation and oxidative stress
- Need to repair membranes so other mitochondrial nutrients can be supportive.
- Energy is created within the mitochondrial membrane so poor membrane health reduces electron transport chain ATP production
Nutritional Support for Post-COVID through Support of Pathologic Mechanisms

- Inflammation
- Oxidative Stress
- Anti-oxidant Deficiency
- Mitochondrial Dysfunction
- Immune Regulation

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
Tocotrienols

- Protection against:
  - Oxidative Stress
  - Inflammation
  - Neurodegeneration
  - Cancer
  - Cardiovascular disease

---

Review

Biological Properties of Tocotrienols: Evidence in Human Studies

Puvaneswari Meganathan and Ju-Yen Fu *

Nutrition Unit, Product Development and Advisory Services Division, Malaysian Palm Oil Board, 6 Persiaran Institut, Bandar Riau Bangi, 43000 Kajang, Selangor, Malaysia; mpuvaneswari@gmail.com

* Correspondence: Ju-yenfu@gmail.com or ju-yenfu@po.gov.my; Tel.: +603-8529-4092

Academic Editor: Maurizio Bottino

Received: 14 July 2016; Accepted: 28 September 2016; Published: 26 October 2016

Abstract: Vitamin E has been recognized as an essential vitamin since their discovery in 1922. Although the functions of tocopherols are well-established, tocotrienols have been the unsung heroes of vitamin E. Due to their structural differences, tocotrienols were reported to exert distinctive properties compared to tocopherols. While most vegetable oils contain higher amounts of tocopherols, tocotrienols were found abundantly in palm oil. Nature has made palm vitamin E to contain up to 70% of total tocotrienols, among which alpha-, gamma- and delta-tocotrienols are the major constituents. Recent advancements have shown their biological properties in conferring protection against cancer, cardiovascular diseases, neurodegeneration, oxidative stress and immune regulation. Preclinical results of these physiological functions were translated into clinical trials gaining global attention. This review will discuss in detail the evidence in human studies to date in terms of efficacy, population, disease state and bioavailability. The review will serve as a platform to pave the future direction for tocotrienols in clinical settings.

Keywords: tocotrienols; human studies; clinical trial; biological properties; palm oil

1. Introduction

Due to the increasing trend of life expectancy and awareness towards lifestyle-related diseases, the nutraceutical industry is gaining prominence and has penetrated into consumers’ average daily diet. While the term nutraceutical has not been well defined, it generally refers to any food or supplements that have a beneficial nutritional effect. The current market trend has segmented the nutraceutical industry into two major categories, i.e., functional foods and dietary supplements. The global market size is estimated at USD 140.1 billion in 2010 [1]. Among the major global ingredients, vitamin E has market revenue of USD 10.4 million, alongside with omega-3 fatty acids, amino acids, probiotics and soy proteins [1]. While vitamin E is generally referred to a tocopherol, the role of tocotrienols in human nutrition is frequently underestimated.

Vitamin E is a family of compounds consisting of two categories: tocopherols (TP) and tocotrienols (T3). Structurally, TP and T3 share a similar chromanol head. While tocopherols are attached with a saturated tail at the C2 position, tocotrienols have three double bonds in the side chain. Both TP and T3 have four homologues, namely alpha (α), beta (β), gamma (γ) and delta (δ). Nomenclature of the homologues is dependent on the degree and position of methylation at C5 and C7 position at the chromanol head. Although α-TP is widely known for its function in maintaining cardiovascular health, T3 tend to exhibit various health benefits beyond the antioxidant properties. Among the major sources of T3 are palm oil, annatto and rice bran oil [2].

Global trend of nutraceutical ingredients is moving towards disease or condition specific formulations. Among the highly demanded formulations are those targeted for cardiovascular diseases, weight management, cognitive function, and bone/joint health. In this review, the clinical effects of

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
CytoQuel®
healthy cytokine support

- **Black Tea Extract**
  - Much stronger antioxidant than green tea
  - Highest EGCG Content - 50%

- **CurcuWin®**
  - 46X absorption of standard curcumin*
  - 35X absorption of BCM-95®*
  - 6X absorption of Meriva®*

- **Delta Gold® Tocotrienols**
  - Pure delta & gamma
  - No tocopherols = better absorption

- **N-Acetyl-cysteine (NAC)**

- **Resveratrol (Natural Trans-Resveratrol)**

---

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
Study CytoQuel®

- Small pilot study of 21 individuals with one area of chronic pain for 6 months: excluded patients with previously diagnosed cardiovascular disease
- An open-label study design: either 3 capsules daily
- CytoQuel® designed to decrease inflammation: Evaluations: Baseline, 2 weeks, 8 weeks
  - Pain and activities of daily living questionnaires
  - Blood pressure was measured in both arms and ankles, and the ankle-brachial index calculated
  - Blood markers associated with inflammation and cardiovascular health.

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
CytoQuel® Research Highlights
Peer-reviewed Clinical Research

- 9.6% reduction in MMP-9 (p<0.05)
- Highly significant correlation between MMP-9 & pain (p<0.01)


These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
Plasma fibrinogen and von Willebrand Factor showed reduction after 2 weeks: Decreased clotting potential

Serum matrix metalloproteinase-9 and interleukin-1 receptor antagonist-a (IL-1ra) were reduced

Reduction of IL-1ra was statistically significant already after 2 weeks (p<0.05).
Oxidative Stress Support

Glutathione, Vitamin C, and Alpha Lipoic Acid improving COVID symptoms


These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
Research Summary
In just 2 weeks...

- **28% increase in red blood cell glutathione levels**
- **400% increase in natural killer cell activity**
- **25% reduction in lipid peroxidation** (oxidative stress marker)
- Research conducted at Penn State University
- Published in European Journal of Clinical Nutrition, 2017
Tri-Fortify® Liposomal Glutathione
Heat stable, no refrigeration necessary

Suggested Use:
As a dietary supplement, gently squeeze the tube to fill 1 teaspoon (5 mL). Hold under tongue for 30-60 seconds, and then swallow or use as directed by your health care professional. Additional doses may be taken.

Supplement Facts
Serving Size: 1 teaspoon (5 mL)
Servings per Container: Approx. 48

<table>
<thead>
<tr>
<th></th>
<th>Amount Per Serving</th>
<th>% Daily Value **</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories</td>
<td>30</td>
<td>1%</td>
</tr>
<tr>
<td>Total Fat</td>
<td>1 g</td>
<td>1%</td>
</tr>
<tr>
<td>Vitamin C (Ascorbic Acid)</td>
<td>50 mg</td>
<td>56%</td>
</tr>
<tr>
<td>Reduced Glutathione</td>
<td>450 mg</td>
<td></td>
</tr>
</tbody>
</table>

**Percent Daily Value based on a 2,000 calorie diet
† Daily Value not established.

Other Ingredients: Glycerin, phospholipids (soy), medium chain triglycerides, natural flavor.
Contains: Ingredients partially derived from soy and tree nuts (coconut).
Free of: Milk, eggs, fish, crustacean shellfish, peanuts, wheat and gluten.

Suggested Use: As a dietary supplement, gently squeeze the tube to fill 1 teaspoon (5 mL). Hold under tongue for 30-60 seconds, and then swallow or use as directed by your health care professional. Additional doses may be taken.

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
### C-RLA™

**Liposomal High Dose Vitamin C and R-Lipoic Acid**

GMO Free – Vegan – Soy Free

**Suggested Use:** Take 2 teaspoons daily. May be taken straight or mixed in water.

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.

#### Supplement Facts

<table>
<thead>
<tr>
<th></th>
<th>Amount Per Serving</th>
<th>%Daily Value**</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vitamin C</strong> (as sodium ascorbate)</td>
<td>1500 mg</td>
<td>1667%</td>
</tr>
<tr>
<td><strong>Sodium</strong> (as sodium ascorbate)</td>
<td>197 mg</td>
<td>9%</td>
</tr>
<tr>
<td><strong>R-Lipoic Acid</strong></td>
<td>70 mg</td>
<td>†</td>
</tr>
</tbody>
</table>

**Other Ingredients:** Purified water, non-GMO sunflower phospholipids, glycerin, natural flavors, potassium sorbate.

Free of: Milk, eggs, fish, crustacean shellfish, tree nuts, peanuts, wheat, soy, corn and gluten.

---

**Supplement Facts (Vanilla Caramel)**

<table>
<thead>
<tr>
<th></th>
<th>Amount Per Serving</th>
<th>%Daily Value**</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vitamin C</strong> (as Sodium Ascorbate)</td>
<td>1500 mg</td>
<td>1667%</td>
</tr>
<tr>
<td><strong>Sodium</strong> (as Sodium Ascorbate)</td>
<td>197 mg</td>
<td>9%</td>
</tr>
<tr>
<td><strong>R-Lipoic Acid</strong></td>
<td>70 mg</td>
<td>†</td>
</tr>
</tbody>
</table>

**Other Ingredients:** Allulose, deionized water, sunflower lecithin, vanilla extract, grapefruit seed extract, stevia extract.

Free of: Milk, eggs, fish, crustacean shellfish, tree nuts, peanuts, wheat, soy, and gluten.
Correlation between Mitochondrial Dysfunction, Oxidative Stress and Inflammation


These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
Treatment for Mitochondrial Dysfunction

- Repair mitochondrial membrane
  - Phospholipids

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
Treatment for Mitochondrial Dysfunction

- Support mitochondrial function
  - Phospholipids
  - CoQ10/Ubiquinol
  - Carnitine
  - NADH
  - Alpha-lipoic acid
  - B vitamins
  - Vitamin E
  - PQQ
  - Vitamin C

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
Results: Fatigue

- Reduction in long-term fatigue was rapid and highly significant after 1 week. (35%)
- 52% reduction in fatigue after 8 weeks

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
Results: Pain, Sleep, and Mental Functioning

- Pain reduction reached statistical significance at 4 weeks.
- Wellness scores improved, especially mental functioning, increased emotional wellness, and increased energy/vitality.
- Sleep improvement 68% by 8 weeks

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
Results: Reduced Diastolic Blood Pressure and Inflammatory Markers

- Diastolic blood pressure was reduced 12% by 8 weeks
- Serum levels of TNF-α decreased by 19%
- Interleukin 8 was also reduced.

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
Results: Mitochondria

- At baseline, leukocyte mitochondrial responses which included increasing mitochondrial mass and membrane potential to ex vivo inflammation were low compared to leukocytes from healthy non-fatigued people, showing a mild 21% increase after 4 weeks (not statistically significant)
### Supplement Facts

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Amount Per Serving</th>
<th>% Daily Value**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin C (from Membrane Restore™ Blend)</td>
<td>100 mg</td>
<td>111%</td>
</tr>
<tr>
<td>Thiamin (from Membrane Restore™ Blend)</td>
<td>50 mg</td>
<td>4167%</td>
</tr>
<tr>
<td>Riboflavin (from Membrane Potential™ Blend)</td>
<td>42 mg</td>
<td>3250%</td>
</tr>
<tr>
<td>Choline (from RN Lipid Concentrate™ Blend)</td>
<td>27 mg</td>
<td>5%</td>
</tr>
<tr>
<td>Magnesium (from Krebs Plus Foundation™ Blend)</td>
<td>50 mg</td>
<td>12%</td>
</tr>
<tr>
<td>Membrane Potential™ CoQ10, Riboflavin-5-Phosphate, Panmol® (NADH)</td>
<td>215 mg</td>
<td>†</td>
</tr>
<tr>
<td>Membrane Restore™ Ascorbic Acid, DeltaGold® Tocotrienols</td>
<td>130 mg</td>
<td>†</td>
</tr>
<tr>
<td>RN Lipid Concentrate™ (Phosphatidylcholine, Phosphatidylyethanolamine, Phytoglycerolipids, Phosphatidylinositol)</td>
<td>200 mg</td>
<td>†</td>
</tr>
<tr>
<td>Krebs Plus Foundation™ R-Lipoic Acid, Alpha Ketoglutaric Acid, Magnesium (as Di-Magnesium Malate), Thiamine HCL</td>
<td>225 mg</td>
<td>†</td>
</tr>
<tr>
<td>Mitogenesis RN™ Acetyl L-Carnitine, PQQ (Pyrroloquinoline Quinone)</td>
<td>210 mg</td>
<td>†</td>
</tr>
</tbody>
</table>

** Percent Daily Values are based on a 2,000 calorie diet.
† Daily Value not established.

Other Ingredients: Hypromellose (vegetable capsule), rice hull extract, calcium carbonate, and mineral silica.

Contains: Ingredients derived from soy.

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
Transfer Factor Multi-Immune®
Clinical Research¹

¹Currently in peer-review process

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
Transfer Factor Multi-Immune®
Transfer Factor vs. herbal blend with mushrooms and beta-glucan

Transfer Factor Multi-Immune™ vs. Same Product without Transfer Factor Ingredient

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
Transfer Factors

- Small proteins with RNA (nucleotide material)
- Made by activated T-helper cells
- Increases natural killer cells
- Promotes stronger Th1 immune response
Treating Long Haul COVID through Treating Chronic Pathology

► **Immune Dysregulation**
  ► **Transfer Factor Multi-Immune™** - optimize and balance the immune system

► **Inflammation:**
  ► **CytoQuel®** - support healthy cytokine activity and manage oxidative stress and inflammation, decrease clotting potential and support cardiovascular health

► **Mitochondrial Dysfunction:**
  ► **ATP 360®** - repair mitochondrial membranes and support mitochondrial function

► **Oxidative Stress:** neutralize free radicals
  ► **Tri-Fortify® Liposomal Glutathione**
  ► **C-RLA™**: Liposomal vitamin C with R-lipoic acid
  ► **H2Absorb™**: Molecular Hydrogen

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.