**K•PAX Protein Powder and Immune Support Capsules**

**Product #119**

**Supplement Facts**

<table>
<thead>
<tr>
<th>Serving Size</th>
<th>1 Scoop (~32.75 grams)</th>
<th>Servings Per Container: 30</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Calories</strong></td>
<td>115</td>
<td></td>
</tr>
<tr>
<td><strong>Total Fat</strong></td>
<td>1 g</td>
<td>1%</td>
</tr>
<tr>
<td><strong>Total Carbohydrates</strong></td>
<td>16 g</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Dietary Fiber</strong></td>
<td>2 g</td>
<td>8%</td>
</tr>
<tr>
<td><strong>Soluble Fiber</strong></td>
<td>1 g</td>
<td></td>
</tr>
<tr>
<td><strong>Sugars</strong></td>
<td>12 g</td>
<td>4%</td>
</tr>
<tr>
<td><strong>Protein</strong></td>
<td>12 g</td>
<td>24%</td>
</tr>
</tbody>
</table>

**Formulation:**

- **Ascorbic Acid (Vitamin C)**
- **Calcium (as Citrate, Ascorbate)**
- **Selenium (as Selenite)**
- **Zinc (as Zinc Salt)**
- **N-Acetyl-L-Cysteine (NAC)**
- **Betaine HCl**
- **Mixed Tocopherols**
- **Magnesium (as Citrate)**
- **Manganese (as Selenite)**
- **Copper (as Picolinate)**
- **Beta-Tocopherol (30 IU)**
- **Alpha-Lipoic Acid**
- **Mixed Bioflavonoids**
- **L-Glutamic Acid**
- **L-Phenylalanine**
- **Methionine**
- **Gamma Amino Butyric Acid**
- **Inositol**
- **Alpha Lipoic Acid**

**Dose Form:**

Powder

**Other Ingredients:**

- Other Ingredients: Brown Rice Syrup Solids, Orzaytein™ Whole Grain Brown Rice Protein, Natural Flavors, Guar Gum, Stevia, Citric Acid and Malic Acid. Betatene® is a registered trademark of Cognis B.V. Orzaytein™ is a trademark of Axiom Foods.

**Formulation Rationale:**

K•PAX is a micronutrient supplement shown to significantly improve CD4 cell counts in those who are immuno-compromised. K•PAX can also be used in those who are not immuno-compromised and would like additional immune support.

**Research Findings:**

**Antioxidants:**

- In cases where the immune system may be weakened, such as a viral infection, oxidative stress occurs, playing a large role in immune health. Antioxidants are a safe and effective way to reduce oxidative stress and improve health. Studies have shown antioxidants can lead to a reduction in symptoms and fewer days with symptoms.

**Acetyl-L-Carnitine:**

- In vivo and in vitro studies show acetyl-L-carnitine decreases the apoptosis of CD4 and CD8 cells.1
- Acetyl-L-Carnitine levels are often lower in those with poor immune health such as in the case of chronic fatigue syndrome and AIDS. 2,3
- As we age, oxidative damage to mitochondria occurs. Acetyl-L-Carnitine increases cellular ATP production, and has been found in combination with lipoic acid to lower oxidative stress in animal studies.4,5

**N-Acetyl-L-Cysteine (and Glutathione):**

- Supplemental glutathione is not well absorbed in the body and cannot be absorbed by T-cells. NAC has been used/shown to increase glutathione levels in the body, and may also directly improve cellular immunity itself. 3,6
- Often times those with immunodeficiencies have lower levels of glutathione. Studies have shown a reduction in glutathione by 10-40% can inhibit T-cell activation in vitro.7
- Studies done in cases of immune deficiency, have shown NAC to be an effective antiviral agent and antioxidant, acting on many different levels. 8,9,10,11

**Product #118**

**Supplement Facts**

<table>
<thead>
<tr>
<th>Serving Size</th>
<th>8 Capsules • Servings Per Container: 15-30</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vitamin A (100% Beta-Caroten 10,000 IU)</strong></td>
<td>200%</td>
</tr>
<tr>
<td><strong>Vitamin C (as Ascorbic Acid, 1,000 mg)</strong></td>
<td>1,067%</td>
</tr>
<tr>
<td><strong>Vitamin D3 (as Cholecalciferol, 200 IU)</strong></td>
<td>50%</td>
</tr>
<tr>
<td><strong>Vitamin E (as d-Alpha Tocopherol Succinate)</strong></td>
<td>661%</td>
</tr>
<tr>
<td><strong>Vitamin B6 (as Pyridoxine HCl)</strong></td>
<td>3,000%</td>
</tr>
<tr>
<td><strong>Folic Acid</strong></td>
<td>100%</td>
</tr>
<tr>
<td><strong>Vitamin B12 (as Methylcobalamin)</strong></td>
<td>1,25 mg</td>
</tr>
<tr>
<td><strong>Panthenic Acid</strong></td>
<td>20,833%</td>
</tr>
<tr>
<td><strong>Pantothenic Acid (as d-Calcium Pantothenate USP)</strong></td>
<td>2,500%</td>
</tr>
<tr>
<td><strong>Betaine HCl</strong></td>
<td>300%</td>
</tr>
<tr>
<td><strong>Betaine HCl USP</strong></td>
<td>100%</td>
</tr>
<tr>
<td><strong>Choline</strong></td>
<td>300%</td>
</tr>
<tr>
<td><strong>Choline (as Bitartrate USP)</strong></td>
<td>100%</td>
</tr>
<tr>
<td><strong>Calcium (as Citrate, Ascorbate, and d-Calcium Pantothenate USP)</strong></td>
<td>400%</td>
</tr>
<tr>
<td><strong>Iron</strong></td>
<td>50%</td>
</tr>
</tbody>
</table>

**Dose Form:**

Two-piece vegetable capsules, size OO

**Other Ingredients:**

Other Ingredients: Natural Vegetable Capsules, Magnesium Stearate, Magnesium Silicate and Silicon Dioxide. Betatene® is a registered trademark of Cogins B.V.
Lipoic Acid:
• Lipoic acid is used as a potent antioxidant, capable of restoring other antioxidants such as ascorbate, tocopherol, and glutathione.
• A Hepatitis C infection is followed by a weakened immune response and oxidative stress, leading to liver damage and other symptoms. Studies using lipoic acid along with other antioxidants such as ascorbate, silymarin, and tocopherols, found those receiving the antioxidant treatment had quicker recovery times and an improvement in liver enzymes.

Micronutrients:
• It is well known micronutrients play an important part in immune health. When the immune system is stressed or weak, micronutrients have been shown to be beneficial in recovery times and cell functions, taken prophylactically micronutrients can help strengthen the immune system, lessening the chance for illness. While the mechanisms of each micronutrient are complex and some not widely understood, micronutrient therapy has been used in mainstream medicine and continues to be studied.
• 51 critically ill patients were given either 50 mg or 100 mg of vitamin B6 or placebo. Those receiving the vitamin B6 saw increases in T-lymphocyte and T-helper cell numbers and the percentage of T-suppressor cell significantly increased. No significant changes were found in the placebo group.
• Selenium is used for the functioning of neutrophils, macrophages, NK cells, T cells and other immune mechanisms.
• Low levels of Zinc have been found in those with immunodeficiencies. Supplementation with Zinc for one to two months has been able to restore immune responses and decrease infections.
• Vitamin A can act directly through its functions in the metabolism of certain immune cells. Antibody mediated immunity has been found to be impaired with Vitamin A deficiency.
• Vitamin C is found in high concentrations in leukocytes and used quickly during an infection. One study found a high dose of Vitamin C was able to increase NK activity.
• Vitamin E deficiencies results in free radical induced damage to red blood cells. Vitamin E has been shown to increase the CD4/CD8 ratio and enhance T-cell proliferation in healthy individuals.
• Vitamin D has been found to modulate T-cell responses. In vitro, Vitamin D was found to have some effects on lymphocyte function as well.

Dose:
Capsules:
For optimal results take with food and observe these dosing guidelines: To Maintain your current health status: Weight <120 lbs, take 4 capsules 1 time per day. Weight >120 lb, take 8 capsules 1 time per day. To improve your current health status: Weight <120 lbs, take 4 capsules 2 times per day. Weight >120 lbs, take 8 capsules 2 times per day. For best results, take with Alpha Base.

Powder:
Mix 1 scoop in 8 oz of water or your favorite fruit juice. Stir to mix or shake in a closed container with ice. Dilute with water if desired. May also be mixed with yogurt, pudding, apple sauce, and blender drinks.

Contraindications:
Class 1. If you are pregnant or nursing consult your health care provider before taking this product.