With an increase in cases of Epstein-Barr disease, fibromyalgia, chronic fatigue, AIDS and other long-term immune depressing illnesses being presented in doctor’s offices today, Mountain Peak Nutritionals created Chronic Immune™ formula. New viruses have increased dramatically in the past 25 years and, in far too many cases, treating them with traditional pharmaceuticals has not produced effective patient outcomes. We utilize many of the clinically studied ingredients that have been shown to effectively bring resolution to chronic immune system weakness. To support and strengthen the immune system we included both eastern and western botanicals, organic mushrooms, vitamins, minerals, amino acids, and other specific ingredients that synergistically enhance immune function.

**INGREDIENTS:**

**Vitamin C:**
Vitamin C is best known for its effects as an antioxidant, free radical scavenger and for its role in maintaining proper immune function (6). Taking 250 mg of Vitamin C daily in combination with Vitamin A, beta-carotene, Vitamin E, selenium and coenzyme Q-10 improves markers of oxidative defense and oxidative stress in men with human immunodeficiency virus (HIV) disease (7).

**Larch Arabinogalactan**
Larch arabinogalactan (AG) is a polysaccharide produced from the bark of the Larch tree. AG produces immunostimulatory effects by increasing the release of interferon gamma, tumor necrosis fact alpha, interleukin-1, interleukin-6 and stimulating phagocytosis and natural killer cell activity. Arabinogalactan potentiates the complement system (1).

**Astragalus**
Astragalus root contains a variety of active constituents including more than 40 saponins, such as astragaloside, several flavonoids, polysaccharides, multiple trace minerals, amino acids, and coumarins. Astragalus is an antioxidant that inhibits free radical production, increases superoxide dismutase, and decreases lipid peroxidation (2). Astragalus improves the immune response by potentiating the effects of interferon and increasing antibody levels of IgA and IgG (2).

**DMG (Dimethylglycine)**
DMG is built from the simplest amino acid, glycine, where two hydrogen atoms have been replaced with methyl (CH3) groups on its nitrogen atom. Because DMG is a methyl donor, it enhances the immune response and increases disease resistance. DMG strengthens both the cell-mediated (T lymphocytes) immunity and humoral immunity (B lymphocytes that produce antibodies or immunoglobulins, IgA, IgG, IgM, IgD and IgE) (8).

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**TECHNICAL DATA SHEET**

### Chronic Immune™

**Supplement Facts**

**Serving size:** 1 capsule  
**Servings per container:** 60

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Amount per serving</th>
<th>%DV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin C (as Poly C Ascorbate)</td>
<td>100 mg</td>
<td>167%</td>
</tr>
<tr>
<td>Magnesium (as Glycinate)</td>
<td>25 mg</td>
<td>7%</td>
</tr>
<tr>
<td>Zinc (Citrate)</td>
<td>5 mg</td>
<td>33%</td>
</tr>
<tr>
<td>Astragalus membranaceous extract (16% polysaccharides) (root)</td>
<td>100 mg *</td>
<td></td>
</tr>
<tr>
<td>DMG (as Dimethylglycine)</td>
<td>100 mg</td>
<td>*</td>
</tr>
<tr>
<td>Arabinogalactan (Larix spp) extract (85% arabinogalactins) (all parts)</td>
<td>100 mg *</td>
<td></td>
</tr>
<tr>
<td>Olive leaf extract (Olea europaea) (18% Oleuropein) (leaf)</td>
<td>100 mg *</td>
<td></td>
</tr>
<tr>
<td>Mushroom Blend (Organic)</td>
<td>100 mg</td>
<td>*</td>
</tr>
<tr>
<td>Cordyceps sinensis (Caterpillar) (Bionectria ochroleuca)</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Coriolus versicolor (Turkey-tail)</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Grifola frondosa (Maitake)</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Letinula edodes (Shiitake)</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Schizophyllum commune (Split-gill)</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Tramella fuciformis (White Wood-ear)</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Alpha-Lipoic Acid</td>
<td>50 mg</td>
<td></td>
</tr>
<tr>
<td>Beta Glucan (1.3 / 1.6 glucan) (70%)</td>
<td>50 mg</td>
<td>*</td>
</tr>
<tr>
<td>Isatis extract (5:1) (as Ban lang gen) (root)</td>
<td>50 mg</td>
<td>*</td>
</tr>
<tr>
<td>Lactoferrin</td>
<td>25 mg</td>
<td></td>
</tr>
<tr>
<td>Schisandra extract (Schisandra chinensis) (10:1) (fruit)</td>
<td>20 mg *</td>
<td></td>
</tr>
</tbody>
</table>

**Percent Daily Values are based on a 2,000 calorie diet.**

* Daily Value not established.

Other ingredients: Vegetarian capsules (cellulose and water)
Olive Leaf
The olive leaf’s active constituent is oleuropein, a phenolic glucoside. The olive leaf also contains the bioflavonoid rutin, luteolin, and hesperidin, which work synergistically with oleuropein to enhance its natural activity. We use the highest concentration extract (17-23%) of oleuropein available, which provides natural protection and a healthy environment for cells, without suppressing immune system function or harming beneficial microflora (3).

Mushroom Blend
We include six immune specific organic mushrooms to increase the effectiveness of our Chronic Immune™ formula. Cordyceps sinensis stimulate immune function by increasing the number of T helper cells (4). Coriolus contains polysaccharide peptide (PSP) and polysaccharide krestin (PSK), which have been shown to produce antitumor and immunomodulating effects (5). Maitake mushrooms contain beta-glucan, which has been shown to enhance antitumor activity. Shiitake mushrooms contain lentinan, which also produces antitumor effects. Split-gill and White Wood-ear mushrooms contain immunomodulating properties.

Beta 1,3 Glucan
Beta glucans are polysaccharides that consist of (1-3)-beta-D-linked polymers of glucose that are either non-branched or with 1-6-beta branches. Laboratory findings indicate beta glucans specifically bind to monocyte and macrophage cell lines, increase the proliferation and activation of cytokine interleukin-1 (IL-1) by macrophages, which in turn promote the release of IL-2 by T-cells (11).

Isatis Root (Ban Lang Gen)
The active constituent of the isatis leaf is Tryptanthrin, which inhibits cyclooxygenase-2 (COX-2) and 5-lipoxygenase, which are mediators of inflammatory activity (9). Other constituents appear to have antiviral, antibacterial, antifungal, analgesic, and antipyretic properties (10).

Alpha-Lipoic Acid
Alpha-Lipoic Acid is both water and fat soluble and can scavenge free radicals both intra- and extra-cellularly (11). Alpha-Lipoic Acid can regenerate endogenous antioxidants such as Vitamin E, C, and glutathione, and prevent oxidative stress (11). Supplementation improves blood antioxidant status and blood peroxidation products, and increases T-helper lymphocytes and T-helper suppressor cell ratio, based on an open trial in HIV-positive patients (12).

Magnesium
Magnesium is the second most plentiful cation in the intracellular fluid and the most plentiful cation in the body. Magnesium is involved with more than 300 enzyme systems and cellular reactions. Magnesium is required for the formation of cyclic AMP (cAMP) and is involved in ion movements across cell membranes (12).

Lactoferrin
Lactoferrin is an iron-binding glycoprotein in the transferrin family that is found in human and bovine milk. It is the major whey protein in human milk. Lactoferrin has a bacteriostatic effect by sequestering iron, which is essential for bacterial growth and binds to the bacterial cell surfaces causing cell lysis. In immune system function, lactoferrin binds with epithelial cells at the site of infection and inhibits cytokine production.

Schisandra
Schisandra fruit contains a variety of active constituents commonly known as lignans. Evidence indicates that nigranoic acid, isolated from the stem of Schisandra sphaerandra, might be useful in HIV therapy. In vitro it exhibits anti-HIV reverse transcriptase and polymerase activity (13).

Zinc
Zinc is a biologically essential trace mineral and is the second most abundant trace element in the body. About 30% of cellular zinc is found within the nucleus. Zinc is found in over 300 enzymes. Zinc is responsible for neutrophil, natural killer cell, and T-lymphocyte function (13). Plasma zinc levels are low in people with HIV infection.

REFERENCES:
4. Chin Med J (English) 1991;104:4-8
5. Gen Pharmacol 1997;29:269-73
8. Townsend Letter for Doctors and Patients.May 2000;75-85
12. Modern Nutrition in Health and Disease 8th Ed.1994;Shils M. Olson A. Shike M

Patients: Consult with your healthcare professional for the proper dosage and use of this formula.

For more information about this and other Condition Specific Formulas® please visit our website at:

www.mountainpeaknutritionals.com

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