

### Breathe Easier with Natural Immune Support

By Amy Kosowski, M.S., LDN

The warmer months of the year are looked forward to by most people – unless they bring with them respiratory discomfort, sore eyes, and congestion. Annual bouts with pollen and other environmental triggers can really take the fun out of being out of doors. Seasonal allergies affect up to 20% of the American population and their prevalence is on the rise.<sup>1-3</sup> Although there are numerous over-the-counter and prescription medications that help to alleviate these symptoms, many of these products have undesirable side effects such as dry mouth, headache, and drowsiness. Natural approaches however, work with the body to support immune system function, rather than work against it, without causing that “wired but tired” feeling.

The reasons that some people develop allergies and other related conditions such as asthma are unclear; and reasons for the ever-increasing incidence of these conditions are even less clear. However, there are several known risk factors that are associated with the development of atopy and asthma in childhood. These include exposure to cigarette smoke and air pollution,<sup>2</sup> antibiotic use during the first year of life,<sup>4, 5</sup> family history,<sup>2, 6</sup> the use of synthetic building materials and the use of preservatives in building materials,<sup>6</sup> certain vaccines,<sup>7, 8</sup> and dietary changes, such as the increased consumption of omega-6 fatty acids coupled with the decreased consumption of omega-3 fatty acids and inadequate intake of other nutrients such as magnesium and selenium.<sup>2, 6, 9-11</sup> Many of these risk factors are modifiable through nutrition and diet.

Over the past century, the human diet has undergone many changes due to modern farming practices, the desire to extend product shelf-life, and the increasing demand for convenience foods. Perhaps one of the most profound changes is the alteration in the fatty acid composition of the diet. There has been a dramatic shift in the balance between the essential fatty acids, omega-6 and omega-3 in the diet. Omega-3 fatty acids (FAs) have become harder and harder to obtain through the diet; at the same time, sources of omega-6 have greatly increased. Because the omega-6 FAs are the precursors to pro-inflammatory prostaglandins and leukotrienes, and the omega-3's promote anti-inflammatory processes,<sup>12, 13</sup> diseases of inflammation and general immune imbalances have become more common.<sup>14</sup>

There have been many studies on the effects of dietary omega-3 FAs on immune and inflammatory function. Supplementary fish oil has been shown to decrease the production of superoxide by neutrophils<sup>15-17</sup> and monocytes;<sup>18</sup> decrease the production of TNF- $\alpha$ , IL-1 $\beta$ , and IL-6;<sup>19-23</sup> decrease the proliferation of lymphocytes;<sup>21, 22, 24-28</sup> and decrease the production of IL-2<sup>21, 22, 24, 28</sup> and IFN- $\gamma$ .<sup>22</sup> In addition, numerous studies report the benefits of fish oil supplementation in allergies and asthma in humans.<sup>29-36</sup>

Another major dietary change has been the alteration in the available microflora from the food supply. Sterile packaging, pasteurization, antimicrobial cleansers, and the use of steroids and antibiotics have all affected the general micro-ecology, as well as human gut ecology. Moreover, as society, Americans do not eat many cultured foods, so beneficial microorganisms are not being added to the system to maintain their populations in the gut. It has been hypothesized that these changes may play a role in the increased development of immune imbalances.

It is well known that intestinal flora play an important role in the development of immune function.<sup>37, 38</sup> In fact, the intestinal microbiota in infants who later develop allergic diseases differs from that of infants that do not go on to develop these conditions.<sup>37, 39</sup> Several studies have been undertaken to demonstrate that modification of gut flora can positively alter immune function.<sup>37-45</sup> These studies, which utilized several different bacterial strains, have shown that the use of probiotic supplements can increase regulatory T-cell activity,<sup>41-43</sup> can control T-cell mediated atopic dermal inflammation,<sup>43, 44</sup> and can reduce Th-2 cytokine production<sup>45</sup> in allergic subjects.

In addition to compensating for the above alterations in the diet, supplementation with other nutrients and herbs can further help to support and optimize immune function and achieve a more balanced inflammatory response. Recent laboratory findings have substantiated these approaches via in vitro as well as human clinical studies. Here are some Protocol for Life Balance™ ingredients and products that can help reduce allergenic potential. These products support natural structure/function processes, and are not treatments for diseases:

**Vitamin C:** Vitamin C has been shown to inhibit histamine secretion by white blood cells,<sup>46, 47</sup> decrease serum histamine levels,<sup>46</sup> and modulate histamine receptor activity.<sup>48</sup> When orally administered, 1-2 g Vitamin C per day is suitable to support immune activities.\* Protocol for Life Balance™ offers these superior Vitamin C products: **C-1000 with Bioflavonoids (P0690)**, **Protosorb™ C-500 (P0716)** and **Protosorb™ C-1000 Extra Strength (P0726)**. Protosorb™ C is an advanced version of Vitamin C designed to enhance transport into the cell.

**Quercetin:** It has been demonstrated that quercetin can inhibit the release of histamine,<sup>50-53</sup> reduce eosinophilia,<sup>52</sup> and impair production of IL-5, IL-10, and TNF- $\alpha$ .<sup>52</sup> In addition, quercetin has been shown to inhibit release of pro-inflammatory mediators from human mast cells.<sup>54</sup> A dosage of 250-600 mg, three times daily is recommended to support a balanced inflammatory response.\* Quercetin is a key ingredient in our **Aller-All™ product (P3282)**.

**Bromelain:** Bromelain, a proteolytic enzyme derived from pineapple stems, has a number of effects on the inflammatory response. This enzyme has been shown to induce proteolytic activity at inflammatory sites,<sup>55, 56</sup> enhance fibrinolytic activity and inhibit fibrinogen synthesis,<sup>57</sup> lowers both serum and tissue kininogen and bradykinin levels,<sup>55-57</sup> influences pro-inflammatory prostaglandin biosynthesis,<sup>55-57</sup> and inhibits the initiation of PGE1 accumulation.<sup>55-57</sup> Human clinical studies have confirmed that bromelain at 400-500 mg, three times daily can help to maintain a healthy inflammatory response.\*<sup>58-61</sup> Protocol for Life Balance™ **Bromelain 2400 GDU (P2943)** is one of the highest potency bromelain products available.

**N-Acetyl-Cysteine (NAC):** NAC is a sulfur-containing amino acid derivative known to support glutathione synthesis,<sup>62</sup> promote detoxification,<sup>62-65</sup> and protect of cells against oxidative stress.<sup>64, 65, 67</sup> It has also been shown to decrease the viscosity of mucus.<sup>66-69</sup> Clinical studies have demonstrated that NAC provides effective support for lung function at a daily dose of 500-2000 mg.\*<sup>66-69</sup> Protocol for Life Balance™ offers **NAC 600 mg (P0085)**.

**Stinging Nettle:** Stinging Nettle (*Urtica dioica*) extract has demonstrated inhibitory activity of key inflammatory events in vitro, such as negative agonist activity against the H-1 histamine receptor, the inhibition of mast cell degranulation, as well as inhibition of mast cell pro-inflammatory cytokines.<sup>69</sup> Human clinical studies support in vitro findings.<sup>70, 71</sup> Doses of 300 mg per day of nettle extract is recommended for the support of healthy immune function and inflammatory response.\*

A number of superior quality Protocol for Life Balance™ fish oil supplements are effective for the encouragement of optimal immune function and the support of a balanced inflammatory response.\* **Our encapsulated Omega-3 products (P1656, P1657, and P1661)** as well as our **liquid Omega-3 (P1659)** are molecularly distilled and completely free of harmful contaminants. Our 8-strain probiotic, **Ortho Dophilus™ (P2912)**, is enteric coated and requires no refrigeration.

Health care practitioners have historically utilized dietary changes in addition to nutritional and herbal combinations to support immune function, respiratory health, and inflammatory balance in order to reduce allergenic potential in their patients. Now is the season, and now is the time to use the best Protocol for Life Balance™ products for your patient's health.

References available upon request through your sales representative.

See [www.protocolforlife.com](http://www.protocolforlife.com) for more products

## Aller-All™ Seasonal Support



The human body's nutritional needs greatly increase when faced with the challenges of maintaining a healthy seasonal immune response, and neglecting these needs can have a significant impact on the quality of life for many people. Sadly, most of us don't realize the importance of nutrition in this area.

When facing seasonal challenges the body fights back by releasing histamine, an important compound derived from the amino acid histidine. Aller-All™ is specifically designed to help modulate the body's histamine response, as well as support other critical immune system functions. Moreover, it can be used year-round.

Aller-All™ contains Vitamins B-5, B-6, and Vitamin C, all known for their ability to support immune system function and inflammatory response. This formula also contains Magnesium, Zinc and Quercetin (a flavonoid known for its antioxidant benefits), Bromelain (an enzyme from pineapple that supports a healthy inflammatory response), and Licorice Root (*Glycyrrhiza glabra*, for modulation of the body's response to stress).\*

Aller-All™ is ideal for general respiratory response, especially in the presence of seasonal allergies™.\*

Code      Size  
P3282    60 Tabs

Supplement Facts	
Serving Size 3 Tablets Servings Per Container 20	
	Amount Per Serving
Vitamin C (as Magnesium Ascorbate)	500 mg
Vitamin B <sub>6</sub> (as Pyridoxine HCl)	20 mg
Pantothenic Acid	100 mg
Magnesium (as Magnesium Ascorbate)	40 mg
Zinc (as L-OptiZinc® Monomethionine)**	10 mg
Quercetin	800 mg
Nettle Extract ( <i>Urtica dioica</i> ) (Root) (Standardized to 30 ppm Scopoletin)	500 mg
Bromelain (2000 GDU)	500 mg
Licorice Extract ( <i>Glycyrrhiza glabra</i> ) (Root) (4:1 Extract)	200 mg

## NAC N-Acetyl-Cysteine



N-acetyl-cysteine (NAC) is a component of the sulfur-containing amino acid cysteine and makes up one-third of the tripeptide glutathione. Both Glutathione and NAC are powerful antioxidants that help to protect the body from free radical cellular damage. NAC supplementation not only supports the body's response to free radicals, but also helps to increase levels of glutathione in the body.\*

Protocol for Life Balance™ N-Acetyl-Cysteine is a unique formula that combines NAC with Molybdenum, an essential trace mineral that functions as a co-factor in many biochemical reactions, and Selenium, another trace mineral that supports glutathione production.\*

Code      Size  
P0085    100 Caps

Supplement Facts	
Serving Size 1 Capsule	
	Amount Per Serving
Molybdenum (as Amino Acid Chelate)	50 mcg
Selenium (as L-Selenomethionine)	25 mcg
<b>N-Acetyl Cysteine</b>	<b>600 mg</b>

## OrthoDophilus™



Protocol for Life Balance™ Ortho-Dophilus is a combination of eight different species of beneficial gut microflora (probiotics) designed to support gastrointestinal health and immune system function. This product helps to replenish these beneficial organisms, which are found in the human large and small intestine and assist in the breakdown and assimilation of food and nutrients. Probiotics are depleted over time by a variety of factors, including environmental toxins, parasites, food chemicals, and even antibiotics, so supplementation is important to maintain healthy levels and optimize digestion.\*

Ortho-Dophilus is enteric-coated, allowing it to bypass the harsh acidic conditions of the stomach and reach the intestines, where it provides the greatest benefit. This formula also contains FOS (fructooligosaccharide), a well-known compound that supports the natural production of acidophilus and bifidus organisms.\*

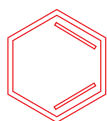
Best of all, Ortho-Dophilus is shelf-stable and requires no refrigeration, so you can rest assured that you're getting full potency with every dose.

Code      Size  
P2912    60 Vcaps®

Supplement Facts	
Serving Size 1 Vcap®	
	Amount Per Serving
Blend of 8 Strains of Probiotic Bacteria	4.0 Billion Organisms
<i>Lactobacillus acidophilus</i>	1.2 billion
<i>Lactobacillus casei</i>	600 million
<i>Lactobacillus rhamnosus</i>	600 million
<i>Lactobacillus salivarius</i>	600 million
<i>Streptococcus thermophilus</i>	400 million
<i>Bifidobacterium bifidum</i>	200 million
<i>Bifidobacterium longum</i>	200 million
<i>Bifidobacterium lactis</i>	200 million

Code	Products	Size
P0105	5-HTP 100 mg	90 Vcaps®
P0108	5-HTP 200 mg + Tyrosine	60 Vcaps®
P1811	A - Biotic™ Enteric Coated, Potent	60 Gels
P0076	Acetyl-L-Carnitine 500	100 Vcaps®
P3344	Adrenal Cortisol Support™	90 Vcaps®
P3032	AHCC® 500 mg	60 Vcaps®
P3282	Aller-All™ Seasonal Support	60 Tabs
P3036	Aloe Vera 5,000	100 Gel
P3042	Alpha Lipoic Acid 250 mg	90 Vcaps®
P3046	Alpha Lipoic Acid 600 mg Plus	60 Vcaps®
P0030	L-Arginine <b>NEW!</b>	180 Vcaps®
P2958	BioCore® Enhanced Enzymes	90 Vcaps®
P0471	Biotin 5000 mcg	90 Vcaps®
P1228	Bone Strength™	180 Caps
P1720	Borage/GLA 1050 mg	60 Gels
P3303	Brain Regain™	60 Vcaps®
P3063	Brocco Immune™	60 Vcaps®
P2943	Bromelain 2400 gdu/500 mg	90 Vcaps®
P1268	Cal-Mag, Liquid, Lemon	16 oz
P3308	C.Away™	90 Vcaps®
P1675	CardioTri-Plex™ <b>NEW!</b>	120 Gels
P0072	L-Carnitine 500 mg Carnipure®	60 Caps
P3019	Celadrin® Joint Liposome Lotion	4 oz
P9470	Protocol Celadrin® Tabletop Display <b>NEW!</b>	12 Bottles
P1415	ChromelMate® 200 mcg	90 Caps
P1731	CLA Away™	90 Gels
P0405	CoEnzyme B Complex	60 Tabs
P3163	CoQ10 60 mg + Fish Oils	90 Gels
P3208	CoQ10 100 mg Softgels	90 Gels
P3196	CoQ10 200 mg Lozenges	60 Loz
P3198	CoQ10 400 mg Softgels	60 Gels
P3182	CoQ10 600 mg Softgels	60 Gels
P3185	CoQ10 Liquid 100 mg/tsp	1 oz
P3186	CoQ10 Liquid 100 mg/tsp	4 oz
P3158	CoQ10 100% Pure Powder	1 oz/28g
P4638	Curcumin 665 mg 95% Extract	60 Vcaps®
P3121	D-Flame™ Cox-2 Formula	90 Vcaps®
P2811	D-Mannose Urinary 500 mg	90 Caps
P2147	D-Ribose Powder <b>NEW!</b>	300 g
P2956	Dairy Digestion™	90 Vcaps®
P4704	EGCg 400 mg/50%	90 Vcaps®
P2963	Enzyme HCl™ <b>NEW!</b>	120 Caps
P1770	Flax Seed Oil 1000 mg Organic	120 Gels
P0498	Flush Free Niacin 500 mg	90 Vcaps®
P4683	Ginkgo Biloba 120 mg/24% Plus	100 Vcaps®
P3048	GlifSODin® 100 mg/Wheat Grass	90 Vcaps®
P3170	Gluc/Chond/MSM Caps	90 Caps
P3172	Gluc/Chond/MSM Caps	180 Caps
P3243	Gluc/Chond 2 per day, Extra Strength	120 Tab
P3130	Gluc & MSM, Vegetarian 1000 mg	120 Vcaps®
P3175	Liquid Glucosamine, Chond, MSM	16 oz
P3318	Glucose Balance™	90 Caps
P0094	L-Glutamine 1000 mg	120 Caps
P3274	Grape Seed OPC 250 mg Extract	90 Vcaps®
P3055	Immune Renew™ (Org. Mushrooms)	90 Vcaps®
P3134	Joint•UC Collagen <b>NEW!</b>	60 Vcaps®
P1625	Krill Oil 500 mg <b>NEW!</b>	60 Gels
P2448	Liver Detox™ - Dr. Verghese	90 Caps
P3062	LYC-O-MATO® 20 mg Lycopene	60 Gels
P3258	Melatonin 3 mg Lozenge & B-6	120 Loz
P3326	MetaboEnergetics™	90 Caps
P0495	Methyl B-12 1,000 mcg	100 Loz
P0496	Methyl B-12 5,000 mcg	60 Loz

P4739	Milk Thistle 300 mg/80% Plus	90 Vcaps®
P2120	MSM 1,000 mg	180 Caps
P0085	NAC N-acetyl cysteine 600 mg + Antioxidants	100 Caps
P3140	Nattokinase 100 mg/2000 FU units	60 Vcaps®
P3301	Ocu Support™ Clinical Strength	90 Caps
P1659	Omega-3 Lemon Liquid /Molecularly Distilled	7 oz
P1656	Omega-3/Enter 180/120 /Molecularly Distilled	90 Gels
P1657	Omega-3/Enter 180/120 /Molecularly Distilled	180 Gels
P1661	Ultra Omega-3 500/250/Molecularly Distilled	90 Gels
P3281	Ortho Detox™	90 Caps
P2912	Ortho Dophilus™ 8 Strains, 4 Billion	60 Vcaps®
P0950	Ortho-E™ NON-GE	60 Gels
P3788	Ortho Multi™ Greens <b>NEW!</b>	180 Vcaps®
P3772	Ortho Multi™ Liquid - Iron Free/Xylitol	16 oz
P3816	Ortho Multi™ Softgel w/ Flax 400 mg	90 Gels
P3878	Ortho Multi™ for Men Caps	90 Vcaps®
P3875	Ortho Multi™ for Men Tabs	90 Tabs
P3798	Ortho Multi™ for Women Caps	120 Vcaps®
P3796	Ortho Multi™ for Women Tabs	90 Tabs
P3340	Ortho Prostate™	90 Gels
P3368	Ortho Thyroid™	90 Vcaps®
P1413	OsteoBoron® 3 mg, Natural Form/base	90 Vcaps®
P0487	Pantethine 300 mg Co-enzyme A	60 Gels
P4727	Peppermint Oil G.I.™ Enteric	90 Gels
P3345	PepZin G.I.® Soothe™	60 Tabs
P2385	Phosphatidyl Serine 100 mg & Ginkgo 60 mg	60 Gels
P3338	Progesterone Cream Pump - 20 mg	3 oz
P5955	ProtoClear™ Berry Flavor	2.55 lbs
P5956	ProtoClear™ Info Card & Sample - Berry <b>NEW!</b>	27.5 g
P5957	ProtoClear™ Orange Flavor	2.55 lbs
P5958	ProtoClear™ Info Card & Sample - Orange <b>NEW!</b>	27.5 g
P5960	ProtoClear™ Vanilla Flavor <b>NEW!</b>	2.55 lbs
P5961	ProtoClear™ Info Card & Sample - Vanilla <b>NEW!</b>	27.5 g
8931	ProtoClear™ Premium Shaker Cup	12 oz
P0716	ProtoSorb™ C 500	100 Vcaps®
P0726	ProtoSorb™ C 1000	100 Tabs
P3277	Pycnogenol® 60 mg & Rutin	50 Vcaps®
P3321	Red Yeast & CoQ10 30 mg, ALA	90 Vcaps®
P3350	Red Yeast Rice Extract 600	90 Vcaps®
P3353	Resveratrol 200 mg Extra Strength <b>NEW!</b>	60 Vcaps®
P0138	SAME 200 mg Enteric + B Complex	60 Tabs
P4756	Saw Prostetto™ 320 mg/85-95% Extract	90 Gels
P1485	Selenium 200 mcg, Yeast-Free	90 Vcaps®
P2954	Serrazimes® 33 mg/20,000 units	90 Vcaps®
P1905	Slimaluma® Plus	60 Vcaps®
P6957	Stevia Complete Packets	100/box
P6955	Stevia Non-Bitter Liquid, Sweet	2 fl oz
P6960	Stevia Non-Bitter Powder, Sweet	1 oz
P3507	Sytrinol® Cholesterol Formula	60 Vcaps®
P0142	Taurine 1000 mg Caps	100 Caps
P3383	True Balance™ Multi	120 Caps
P0166	L-Tryptophan 500 mg	60 Vcaps®
P0167	L-Tryptophan 500 mg	120 Vcaps®
P0169	L-Tryptophan 1000 mg <b>NEW!</b>	60 Tabs
P3145	Ubiquinol CoQH-CF™ 50 mg	60 Gels
P3123	Vein Integrity™ with Trunorin®	90 Vcaps®
P2168	Virility For Men with LJ100®	60 Vcaps®
P0452	Vitamin B-12 Liquid Tri-Formula 5,000 mcg	4 oz
P0690	Vitamin C-1000 Cap+100 Bioflavonoids	120 Caps
P0365	Vitamin D-3 1,000 IU, Natural	120 Gels
P0367	Vitamin D-3 2,000 IU, Natural	120 Gels
P0372	Vitamin D-3 5000 IU, Natural	120 Gels
P0370	Liquid Vitamin D-3 5000 IU, Natural	2 oz
P0906	Vitamin E-400 20% Mixed + Selenium	120 Gels



## Arginine 500 mg **NEW!**



Over the past decade, researchers have made significant advancements in better understanding how natural compounds can help improve the quality of life. One of the most promising is L-Arginine, a conditionally-essential amino acid that has been shown to play a number of important roles within the body. In addition to its most well known functions, L-Arginine is also involved in urea metabolism and excretion, as well as DNA synthesis. Ongoing scientific studies have shown that L-Arginine can assist the body with wound healing, immune function, protein synthesis, and detoxification of excess ammonia. It has also been shown to support the production of certain hormones, such as growth hormone (GH) and insulin. L-Arginine's activity is supported by the amino acids L-Ornithine, L-Citrulline and L-Norvaline, as well as Vitamin B6.\*

- *Amino Acid*
- *Conditionally Essential Amino Acid*
- *Pharmaceutical Grade Amino Acid (USP)*
- *Metabolic Detoxification\**

<b>Supplement Facts</b>	
Serving Size 2 Caps	
Servings Per Container: 50	
	Amount Per Serving
L-Arginine (Free-Form)	1.0 g (1,000 mg)*

Code      Size  
 P0030    180 Caps

\*These statements have not been evaluated by the FDA. These products are not intended to diagnose, treat, cure or prevent any disease.