

**Nothing But Pure**®

# PureResponse™

Promote Active Response.<sup>‡</sup> Create Immune Balance.<sup>‡</sup>



## PureResponse™

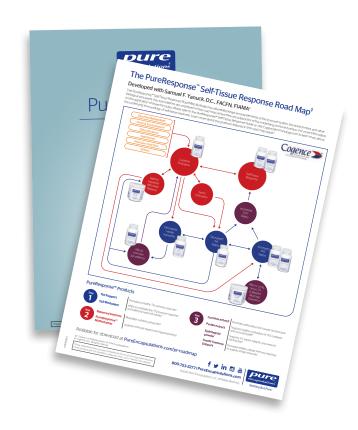
### Promote Active Response.\* Create Immune Balance.\*

A first-of-its-kind protocol at the forefront of functional immunology, PureResponse™ was developed for the more than 25 million Americans seeking solutions to reset their immune balance and responsiveness. Through a progressive decoding of functional immunology, this protocol teases apart the nuances for each patient type and addresses the unique, underlying core biological mechanisms to advance the practitioner's understanding and deliver predictable results.<sup>‡</sup>

Developed in collaboration with nationally recognized immunology thought leader Samuel F. Yanuck, D.C., this exclusive nutrition platform features:

- ✓ Self-Tissue Response Road Map<sup>‡</sup>
- ✓ Clinical Protocol
- ✓ Foundational and Targeted Support Products<sup>‡</sup>
- ✓ Diet and Lifestyle Recommendations
- Assessment and Monitoring Recommendations
- ✓ Case Studies

Access the PureResponse<sup>™</sup>
Practitioner Tool Kit at:
PureEncapsulations.com/pr-tools





#### Samuel F. Yanuck, D.C., FACFN, FIAMA, \*

has been in private practice since 1992 in Chapel Hill, N.C. He serves as CEO & director of education at Cogence, LLC, an online functional immunology education company, and as an adjunct assistant professor at the University of North Carolina School of Medicine, Program on Integrative Medicine.

#### Partnership with Cogence®

The Cogence® and Pure Encapsulations® partnership provides practitioners with a turnkey solution for helping to reset patients' immune balance and responsiveness. To help you better understand the interconnection of each biological process to the immune system, Pure Encapsulations has made an exclusive commitment to provide functional medicine practitioners with full access to Dr. Samuel Yanuck's Cogence® Immunology course and educational tools, assuming the full cost of membership.

Cogence offers an in-depth functional immunology learning experience. The Cogence Immunology course was designed by leading experts to connect the underlying immunology with clinical applications, creating a rigorous yet intuitive program that will allow you to navigate each patient's unique clinical pattern.

Your Cogence membership will give you access to over 200 instructional videos, each 20 to 90 minutes long, grouped into 22 modules covering a wide range of topics.

Visit PureEncapsulations.com/cogence and take advantage of complimentary access to Cogence® Immunology.





\*Dr. Samuel F. Yanuck is a retained advisor to Pure Encapsulations.

The information contained herein is for informational purposes only and does not establish a doctor-patient relationship,

### PureResponse<sup>™</sup> Products

#### Formulated with Samuel F. Yanuck, D.C., FACFN, FIAMA

The following PureResponse<sup>™</sup> products were specifically formulated to help address the primary drivers of healthy immune balance and function. They can be used in combination or applied separately to provide targeted immune support.<sup>‡</sup>

#### FOUNDATION

### PureResponse™ Multivitamin



#### The only multivitamin/mineral complex for healthy self-tissue response on the market\*\*

Available exclusively from Pure Encapsulations®, PureResponse™ Multivitamin is designed to support key pivot points in immune function, including balancing neutrophil and Natural Killer (NK) cell response, and cytokine production. This first-of-its kind, unique formulation supports healthy cell-mediated immunity with a comprehensive blend of nutrients and reishi mushroom extract. It also includes the adaptogen eleuthero to promote physiological balance and moderate occasional stress, including corticosterone activity, cytokine balance and nutrient metabolism. PureResponse™ Multivitamin also features enhanced levels of fat-soluble vitamins, including pre-formed vitamin A, 125 mcg (5,000 IU) vitamin D<sub>3</sub>, vitamin E with mixed tocopherols, and both vitamin  $K_1$  and  $K_2$ . To accommodate the needs of patients with self-tissue response, PureResponse™ Multivitamin is free from iron, copper, iodine and manganese.<sup>‡</sup>

two	capsules	contain	(GI





VICALIIII A (as vicaliiii a acetate)	
Vitamin C (as ascorbic acid)	100 mg
Vitamin D (as cholecalciferol) (D <sub>3</sub> )125 m	cg (5,000 IU)
Vitamin E (as d-alpha tocopherol succinate)	15 mg
Vitamin K (as vitamin K <sub>1</sub> )	135 mcg
Thiamin (as thiamin HCl) (B <sub>1</sub> )	5 mg
Riboflavin (as riboflavin and 60% riboflavin-5-phosphate (activated B <sub>2</sub> )).	5 mg
Niacin (as niacinamide)	20 mg
Vitamin B <sub>6</sub>	10.4 mg
(as pyridoxine HCl and 76% pyridoxal-5-phosphate (activated B <sub>6</sub> ))	
Folate (as Metafolin®, L-5-MTHF)667 mcg DFE (400 mcg	cg L-5-MTHF)
Vitamin B <sub>12</sub> (as adenosylcobalamin and 50% hydroxycobalamin)	1,000 mcg
Biotin	
Pantothenic acid (as calcium pantothenate) (B <sub>5</sub> )	50 mg
Choline (as choline bitartrate)	20 mg
Magnesium (as di-magnesium malate)(Albion®)	100 mg
Zinc (as zinc citrate)	
Selenium (as selenomethionine)	
Chromium (as chromium polynicotinate)	
Molybdenum (as molybdenum glycinate chelate) (TRAACS®)	150 mcg
Potassium (as potassium citrate)	15 mg
Vitamin K <sub>2</sub> (menaquinone-7)	45 mcg
Mixed tocopherols	20 mg
FloraGLO® lutein	3 mg

Zeaxanthin	500 mcg
Eleuthero (Eleutherococcus senticosus) extract (root)	125 mg
(standardized to contain 0.8% eleutherosides)	
Reishi (Ganoderma lucidum) extract (fruiting body)	75 mg
other ingredients: vegetarian cancula (collulace, water), accorb	vl palmitato

ChromeMate® brand niacin-bound chromium.

ChromeMate® & logo are trademarks of Lonza or its affiliates.

Metafolin® is a registered trademark of Merck KGaA, Darmstadt, Germany.

®FloraGLO is a registered trademark of Kemin Industries, Inc.

Albion® and TRAACS® are registered trademarks of Albion Laboratories, Inc. U.S. Patent 6,706,904.

Zeaxanthin is sourced from OPTISHARP® brand. OPTISHARP® is a trademark of DSM.

Vitamin K may be contraindicated with Coumadin (Warfarin). If you are pregnant or lactating, have any health condition or are taking any medication, particularly blood thinning medication, consult your healthcare professional before use.

2 capsules daily, with a meal.

PureResponse <sup>™</sup> Multivitamin	Quantity	Order Code
	60	PRSM6



1 500 mca

Refer to Step 2 of the PureResponse™ Self-Tissue Response Guide on p. 9 to learn more about the clinical application of this product.

#### CYTOKINE BALANCE

#### Balanced Immune

#### Provides foundational support for healthy cellular response, tissue health, antioxidant status, and cytokine balance<sup>‡</sup>

This formula is designed to support immune balance and tissue integrity, in part by targeting the NLRP and NF-κB pathways to modulate cytokine production. NLRP (NOD-like receptor proteins) act as intracellular sensors of oxidative and environmental stressors. Research suggests curcumin and vitamin D support healthy cellular response, in part by modulating this pathway. The formula also promotes numerous enzyme and gene transcription pathways targeting nutrient metabolism in the liver, detoxification, and cellular protection against oxidative stress. Black ginger and resveratrol promote healthy SIRT1 protein levels. SIRT1 supports cellular homeostasis, plays an important role in insulin secretion and glucose homeostasis, and affects glucose and lipid metabolism in the liver. In a double-blind, placebo-controlled, crossover study, 100 mg of Sirtmax® black ginger extract for seven weeks supported healthy glucose metabolism and weight management<sup>†</sup>, while in vitro studies on its active constituents suggest a five-fold increase in SIRT1 activity compared to resveratrol. Sulforaphane and resveratrol support the activity of Nrf2, a transcription factor that supports cellular function by promoting cellular detoxification and protection against oxidative stress.‡

#### each vegetarian capsule contains GF (NON ONE) (VEG







vitamin D (as cholecalciferol) (D<sub>3</sub>)......25 mcg (1,000 IU)

Meriva® turmeric phytosome..... (Curcuma longa extract (root) and sunflower phospholipid complex) (standardized to contain 18% curcuminoids)

broccoli (Brassica oleracea italica) sprout concentrate (whole plant)......150 mg

(standardized to contain 600 mcg sulforaphane) trans-resveratrol.. (from Japanese knotweed (Polygonum cuspidatum) extract (root))

Sirtmax® black ginger (Kaempferia parviflora) extract (root) .....

other ingredients: vegetarian capsule (cellulose, water), hypoallergenic plant fiber (cellulose)

Meriva® is a trademark of Indena S.p.A.

Phytosome More Bioavailable is a trademark of Indena S.p.A.

Sirtmax® is a registered trademark of Tokiwa Phytochemical Co., Ltd.

1 capsule, 1-2 times daily, with or between meals, or as directed by a health professional.

Balanced Immune Quantity Order Code BIM6



Refer to Step 2 of the PureResponse™ Self-Tissue Response Guide on p. 9 to learn more about the clinical application of this product.



<sup>a</sup>Visit PureEncapsulations.com for more information about our GMO policy.

\*As of 10/04/2019 among leading professional brands.

<sup>†</sup>Provides weight management support as part of a healthy lifestyle with a reduced calorie diet and regular exercise.

### Innate Immune Support

#### Promotes healthy cellular immune response to support innate immunity<sup>‡</sup>

This formula is designed to promote cell-mediated immune response, including NK cell and macrophage activity, and may be indicated for enhancement of natural defenses and mucosal health. In vitro and animal studies suggest that astragalus supports NK cell activity, as well as IgA and IgG levels in serum, key antibodies that play a critical role in mucosal immune defense. The formula also includes clinically researched andrographis extract standardized for andrographolide and other bioactive diterpene lactones. In a randomized, doubleblind, placebo-controlled study, supplementation with 200 mg of AP-Bio<sup>™</sup> andrographis for five days promoted immune function and supported respiratory comfort. Reishi mushroom offers a rich source of polysaccharides to promote cell-mediated immunity from both reishi mushroom extract and a unique, highly purified, reishi mushroom-derived beta 1,3/1,6-D glucan extract.<sup>‡</sup>

#### each vegetarian capsule contains (GF) (NON GMO)







astragalus (Astragalus membranaceus) extract (root)	240 mg
AP-Bio™ andrographis (Andrographis paniculata) extract (leaf)	200 mg
(standardized to contain 31.5% andrographolide)	
mushroom beta glucan (from reishi (Ganoderma lucidum) extract (mycelia))	100 mg
(standardized to contain 70% beta 1,3/1,6 glucan)	
reishi (Ganoderma lucidum) extract (fruiting body)	100 mg
other ingredients: vegetarian capsule (cellulose, water), hypoallergenic plar (cellulose)	nt fiber

AP-Bio<sup>™</sup> is a registered trademark of Natural Remedies PVT. LTD.

1 capsule, 1-2 times daily, between meals, or as directed by a health professional.

Innate Immune Support	Quantity	Order Code
	60	TIS6



Refer to Step 3 of the PureResponse™ Self-Tissue Response Guide on p. 9 to learn more about the clinical application of this product.

#### Coriolus extract

Hot water mushroom extract to promote white blood cell number and function<sup>‡</sup>

Coriolus versicolor, also known as turkey tail mushroom, is used in traditional Chinese medicine, primarily to enhance immune function and energy. Research indicates an immune supportive effect and promotion of white blood cell number and function, including lymphocyte, macrophage and NK cells. It has also been shown to support antibody production, cytokine balance, and healthy gut microflora. The main bioactive compounds in this mushroom are polysaccharides, namely beta-glucan. Pure Encapsulations' Coriolus extract is wild-crafted and organic, produced using only carefully controlled hot water to break apart the cell walls for concentration of the soluble beta-glucans.<sup>‡</sup>

### each vegetarian capsule contains $\stackrel{\text{NOM}}{\swarrow}$ $\stackrel{\text{VEG}}{\swarrow}$

(standardized to contain 30% beta-glucan)





Turkey tail (Coriolus versicolor) extract (fruiting body) (certified organic).......500 mg

NEW

other ingredients: vegetarian capsule (cellulose, water)

1 capsule, 1-2 times daily, between meals, or as directed by a healthcare professional.

Coriolus extract Quantity Order Code 60 CRS<sub>6</sub>



Refer to Step 3 of the PureResponse™ Self-Tissue Response Guide on p. 9 to learn more about the clinical application of this product.

#### NATURAL DEFENSES

### Th1 Support

#### Promotes healthy Th1 cellular immune response<sup>‡</sup>

This formula is designed to support healthy activation of Th1 cells to promote innate immunity and cell-mediated immune defenses. Support for Th1 may be indicated for enhancement of natural defenses. According to preclinical data, the formula ingredients support maturation of T cells into Th1 cells and production of IL-12 and IFN-γ, important Th1-promoting cytokines. Studies suggest that berberine positively influences immune biomarkers related to cell and tissue health. Sulforaphane from broccoli promotes various aspects of immunological homeostasis that maintain the health of mucosal cells.<sup>‡</sup>

#### two vegetarian capsules contain (GF) (NON) (VEG)







zinc (as zinc picolinate)	10 mg
berberine HCI	500 mg
Chinese skullcap (Scutellaria baicalensis) extract (root)	300 mg
(standardized to contain 30% baicalin)	
broccoli (Brassica oleracea italica) sprout concentrate (whole plant)	100 mg
(standardized to contain 400 mcg sulforaphane)	
ginger (Zingiber officinale) extract (root)	120 mg
(standardized to contain 5% gingerols)	
other ingredients, vegetarian cansule (cellulose, water)	

Not to be taken by pregnant or lactating women. If you have any health condition or are taking any medication, consult your health professional before use.

2 capsules, 1-2 times daily, with meals, or as directed by a health professional.

Th1 Support	Quantity	Order Code
	120	TH11



Refer to Step 1 of the PureResponse™ Self-Tissue Response Guide on p. 9 to learn more about the clinical application of this product.

#### **IMMUNE RESPONSE TOWARDS ENVIRONMENTAL FACTORS** (MAST CELLS AND EOSINOPHILS)

#### Perilla extract



#### Supports healthy modulation of Th2 cytokines and mucosal health<sup>‡</sup>

Perilla seed offers a concentrated source of polyphenols (including rosmarinic acid and luteolin), along with other beneficial compounds. This herb has traditionally been used to promote healthy respiratory and immune function. In animal models of Th2 dominance, perilla helped maintain healthy upper respiratory cytokine levels. Perilla extract helps support healthy modulation of Th2 cytokines, and eosinophil and mast cell activity. It also helps maintain healthy modulation of mucosal immune responses to environmental factors and cytokine homeostasis of GI mucosal tissue.‡

one capsule contains (NON GMO) (VEG) ( )





(standardized to contain 3% polyphenols)

other ingredients: vegetarian capsule (cellulose, water)

1 capsule, 1-2 times daily, between meals, or as directed by a healthcare professional.

Zinc 30

Vitamin A + Carotenoids

Vitamin D<sub>3</sub> 25 mcg (1,000 IU)

Perilla extract Quantity Order Code PRL9



Refer to Step 3 of the PureResponse™ Self-Tissue Response Guide on p. 9 to learn more about the clinical application of this product.

#### Immune Support Products<sup>‡</sup>

A.C. Formula® II I-Glutamine 1,000 mg Black Currant Seed Oil I-Glutamine powder Caprylic Acid MicroDefense w/ Oregano

**NAC 600 mg** 

EPA/DHA essentials Liposomal Glutathione Phyto-ADR

Access our full listing of Immune Support products<sup>‡</sup> to learn more at **PureEncapsulations.com/immune-support** 

#### **IMMUNE RESPONSE TOWARDS ENVIRONMENTAL FACTORS** (MAST CELLS AND EOSINOPHILS)

#### Th2 Modulator

#### Helps modulate the Th2 immune response and maintains Th1/Th2 balance at the cellular level\*

This formula is designed to modulate the Th2 immune response and to support healthy Th1/Th2 balance, self-tissue response, and mucosal health. This product helps support healthy modulation of Th2 cytokines, and eosinophil and mast cell activity. It also helps maintain healthy modulation of mucosal immune responses to environmental factors. Th2 modulation may be indicated when addressing immune balance in the sinus, respiratory, urinary, and intestinal tracts. Perilla maintains healthy upper respiratory cytokine levels in animal models of Th2 dominance. It also supports cytokine homeostasis of G.I. mucosal tissue. Perilla seed offers a more concentrated source of polyphenols, rosmarinic acid, luteolin and other beneficial compounds compared to leaf. N-acetyl-L-cysteine (NAC) offers mucolytic properties and promotes tissue levels of alutathione.<sup>‡</sup>

#### two vegetarian capsules contain GF (NON GMO) (VEG)







n-acetyl-l-cysteine	300 mg
quercetin	_
Perilla ( <i>Perilla frutescens</i> ) extract (seed)	_
(standardized to contain 3% polyphenols)	· ·
astragalus (Astragalus membranaceus) extract (root	t)160 mg
other ingredients: vegetarian capsule (cellulose, wat	ter)

2 capsules, 1-2 times daily, between meals, or as directed by a health professional.

Th2 Modulator	Quantity	Order Code
	120	TH2A1



Refer to Step 1 of the PureResponse™ Self-Tissue Response Guide on p. 9 to learn more about the clinical application of this product.

#### GI INTEGRITY AND MUCOSAL **IMMUNE RESPONSE**

### Epilntegrity powder

NEW

#### Promotes healthy modulation of mucosal immune responses to support GI integrity in a great-tasting, natural strawberry lemonade-flavored powder\*

Epilntegrity powder combines glutamine, prebiotic fiber and herbal extracts in a great-tasting powder designed to promote healthy modulation of mucosal immune responses as well as gastrointestinal (G.I.) integrity and function. Th2 modulation may be indicated when addressing immune balance in the G.I. tract. L-glutamine is an essential fuel for enterocytes (the cells that line the small intestine and colon), supporting cellular renewal, glutathione production and healthy, everyday tissue repair, while promoting healthy villous function. Arabinogalactan is a prebiotic fiber found in high concentrations in North American larch trees. It has been shown to increase the concentration of beneficial bacteria, such as Bacteroidetes and Faecalibacterium prausnitzii. Beneficial microflora are crucial for proper gut associated lymphoid tissue (GALT) function and development. Research suggests higher levels of F. prausnitzii are associated with healthy cytokine balance and G.I. function. In clinical trials, arabinogalactan has been shown to promote immune cell function. In a randomized three-week trial involving healthy adults, arabinogalactan potentiated the innate immune system, supporting key first-line defenses. Perilla supports cytokine homeostasis of the G.I. mucosal tissue. In a randomized, controlled trial involving 50 individuals, 150 mg of Benegut® Perilla frutescens extract twice daily offered statistically significant support for G.I. comfort. Research suggests that perilla also helps maintain cytokine balance and stabilize mast cells. Astragalus promotes cytokine balance and supports macrophage, natural killer (NK) cell and T-cell activity. Adaptogens like astragalus support physiological and cellular homeostasis and have positive effects on immune function and antioxidant defenses. Deglycyrrhizinated licorice (DGL) maintains intestinal comfort by supporting the protective mucosal lining.<sup>‡</sup>

#### one scoop contains (GF) (NON) (VEG) (NO)







Calories	15
Total Carbohydrate	2.5 g
Sodium (naturally occurring)	25 mg
Arabinogalactan	2.4 g
L-Glutamine (free form)	2.4 g
Benegut® Perilla (Perilla frutescens) extract (leaf)	150 mg
Astragalus (Astragalus membranaceus) extract (root)	200 mg
Deglycyrrhizinated licorice (Glycyrrhiza glabra) extract (root)	50 mg
other ingredients: citric acid, natural strawberry and lemonade flavors, purified stevia leaf extract.	malic acid,

Benegut® is a trademark of Vital Solutions GmbH, Germany.

Take 1 scoop, 1-2 times daily. Add 1 serving to 8 oz. of water or juice. Shake or stir until dissolved.

EpiIntegrity powder	Quantity	Order Code
	171 a	ETD1

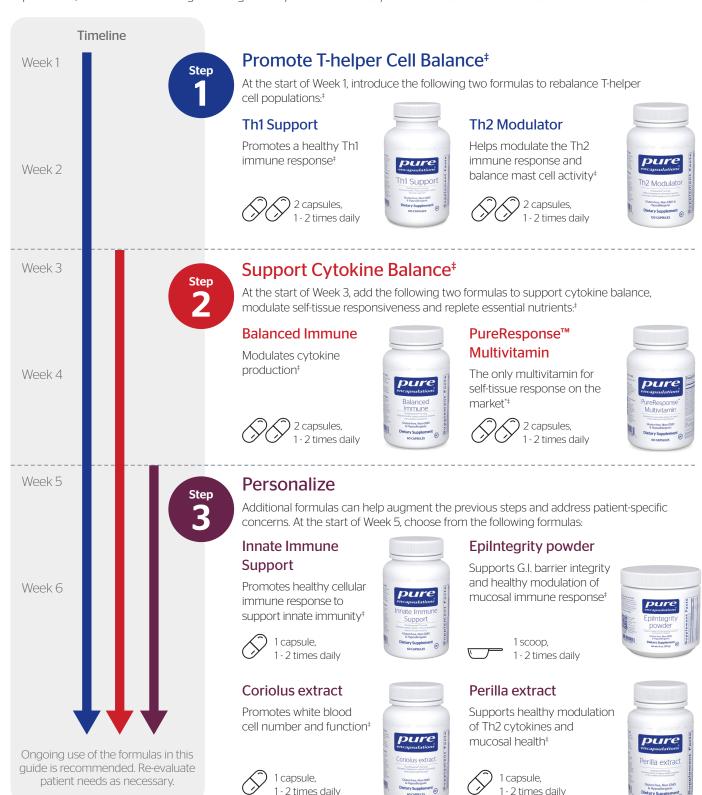


Refer to Step 3 of the PureResponse™ Self-Tissue Response Guide on p. 9 to learn more about the clinical application of this product.

### The PureResponse<sup>™</sup> Self-Tissue Response Guide

#### Developed with Samuel F. Yanuck, D.C., FACFN, FIAMA

This three-step guide is intended for patients with an immune response directed at self-tissue. Each step supports a key aspect of the immune system and cumulatively helps promote a balanced immune response. Follow this guide in a stepwise fashion. Once implemented, the formulas and dosages in this guide may be used indefinitely or modified as needed to maintain immune homeostasis.<sup>‡</sup>



\*As of 10/4/2019 among leading professional brands.

This information is intended for use by licensed healthcare practitioners only and is not intended as medical advice.



#### Promote T-helper Cell Balance<sup>‡</sup>

There are four key T-helper cell types. Each type plays an important role in maintaining a healthy immune response. The following table outlines the main functions of each T-helper cell type.

T-helper Cell Type	Main Functions
Th1 cells	A healthy Th1 response** is essential for cell-mediated immune defenses.
Th2 cells	A Th2 response, within a healthy range, helps maintain appropriate eosinophil and mast cell activity along with mucosal health in response to environmental factors.
Th17 cells	A Th17 response, within a healthy range, helps maintain microbial balance along with tissue integrity.
Treg cells	Treg cells help maintain immune homeostasis by modulating the effects of other T-helper cell types.

**Step 1 of the PureResponse™ Guide** is designed to support a balanced T-helper cell profile by promoting Th1 response and helping to modulate Th2 and Th17 responses.<sup>‡</sup>

Factors commonly seen in clinical practice drive up Th2 response and drive down Th1 response. When Th1 response is diminished, Th17 response expands. This can lead to self-tissue response. This relationship is illustrated below.

Factors that increase Th2 & decrease Th1 Responses:

• Age

• Environment

• Stress

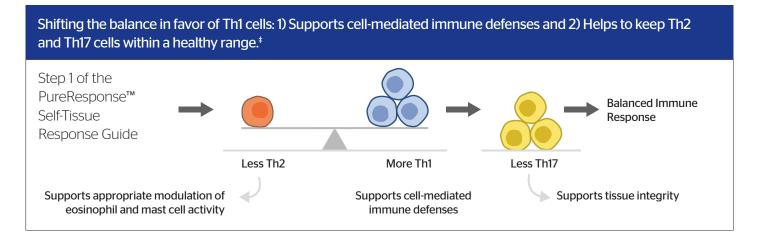
• G.I., sinus, lung involvement

• NFkB activation

More Th2

Less Th1

More Th17



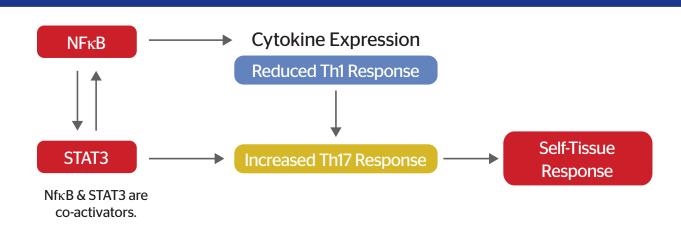
<sup>\*\*</sup>In immunology, the term "response" refers to both the number and function of the cell. For example, an "increased Th2 response" means that both the number and function of the Th2 cells are increased.



#### Support Cytokine Balance<sup>‡</sup>

A balanced profile of cytokines is essential for tissue health and immune homeostasis. NF $\kappa$ B and STAT3 regulate cytokines by modifying gene expression. This can influence T-helper cell balance and self-tissue response, as illustrated below.

 $NF\kappa B$  influences both cytokine expression and STAT3 activity. This can favor the formation of Th17 cells and lead to self-tissue response.



**Step 2 of the PureResponse™ Guide** is designed to support immune balance and tissue integrity, and replete essential nutrients. While supporting cytokine balance is an essential step, it is critical to first support a balanced T-helper cell profile (Step 1).<sup>‡</sup>



#### Personalize<sup>‡</sup>

Additional formulas can help augment the previous steps and address patient-specific concerns. At the start of week 5, choose from the following formulas:



#### Innate Immune Support

Promotes cell-mediated immunity, including NK cell and macrophage activity. May be indicated for enhancement of natural defenses and mucosal health.<sup>‡</sup>



#### **Epilntegrity** powder

Promotes broad-spectrum G.I. integrity by supporting mucosal immune response and epithelial barrier function.<sup>‡</sup>



#### Coriolus extract

Promotes white blood cell number and function, including lymphocyte, macrophage and NK cells. Also supports cytokine balance and healthy microflora.<sup>‡</sup>



#### Perilla extract

Supports healthy modulation of Th2 cytokines, and eosinophil and mast cell activity. Also helps maintain healthy modulation of mucosal immune responses to environmental factors and cytokine homeostasis of GI mucosal tissue.<sup>‡</sup>

**Step 3 of the PureResponse™ Guide** provides tools for the clinician to focus on specific targets that may need to be addressed to achieve successful outcomes.

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### Assessment Recommendations

The functional immunology clinical assessment is chiefly based on the patient's history and current presentation. Areas of primary clinical focus are the extent of cytokine activation; the presence of self-tissue response; the need to support immune surveillance in the context of microbial balance; and the extent of support needed for mucosal integrity in the intestines, sinuses, lungs, vaginal tract or bladder. Assessments can be ordered through major lab testing companies (such as LabCorp® or Quest Diagnostics®), unless otherwise indicated. Not all assessments may be necessary and additional testing may be warranted.

### Step 1

#### Promote T-helper Cell Balance<sup>‡</sup>

- CBC with differential white count:
  - Neutrophils above 68% may suggest Th17-mediated neutrophil increase.
  - Lymphocytes above 40% suggests increased T and B cell activation.
  - Monocytes above 11% suggests increased activity of monocytes.
  - Eosinophils above 2% suggests Th2-mediated eosinophil increase.
  - Basophils above 1% suggests Th2-mediated basophil increase.

- Viral and bacterial IgGs (and IgMs as needed):
  - EBV
  - CMV
  - HSV 1 & 2
  - HHV-6
  - Parvovirus B19
  - Coxsackie Virus
  - ASO titer
  - Anti-DNase B
  - Mycoplasma

- TGF-β1
- Glutathione
- DAO (Dunwoody Labs)
- Histamine, plasma
- Total Quantitative IgE
- 24-hour salivary cortisol
- IgG subclasses
- Cogence® Brief Immunological Assessment

Step 7

#### Support Cytokine Balance<sup>‡</sup>

- Self-tissue antibodies
- Vitamin A
- Vitamin D
- TGF-β1
- GlycA

The following markers will only move out of range in more vigorous cases:

- Acute phase reactants (such as CRP and ferritin)
- Liver function tests
- Interleukin-6 (Rarely high. Meaningful when found.)
- SED rate
- Potassium (Should be greater than 4 mEq/L).
- Zind

Step

#### Personalize

- G.I. assessment:
  - History related to bloating and other factors
  - Stool analysis (including zonulin)
  - ASCA/ANCA antibodies
  - Food IaG/IaA tests
  - Mycotoxin tests
  - Other assessments of GI function
- Innate immune system:
  - NK cell levels
  - Viral and bacterial IgGs (and IgMs as needed):
    - EBV
    - CMV
    - HSV 1 & 2
    - HHV-6
    - Parvovirus B19
    - Coxsackie Virus
    - ASO titer
    - Anti-DNase B
    - Mycoplasma

- Excessive Th2 response:
- Refer to assessment recommendations under Step 1
- WBC numbers and function
  - WBC count on CBC should be ≥ 4

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### Diet & Lifestyle Recommendations

#### **Nutrition:**

- Avoidance of reactive foods is essential for maintaining cytokine balance, both in the G.I. tract and systemically. In particular, patients with existing selftissue response(s) must strictly avoid reactive foods. Consumption of problematic foods, even on rare occasions, may increase the risk of developing a new self-tissue response or broadening the expression of existing self-tissue response in these individuals.
- Food-sensitivity testing (via ELISA panels) may help identify antibody-mediated immune responses to food antigens. An elimination diet may also be helpful in detecting reactive foods. While appropriate dietary changes will be specific to each patient (typically guided by ELISA test results), avoidance of one or more of the following is common:
  - Gluten-containing grains (wheat, rye, spelt, barley, kamut) as well as foods known to be gluten cross-reactors (dairy, sesame, oat, millet, corn, rice, coffee, yeast)
  - ° Grains in general
  - Refined carbohydrates (some individuals may need to minimize all forms of carbohydrates regardless of form)
  - Nightshades (tomato, white potato, eggplant, peppers, paprika, etc.)
  - Trans fats/hydrogenated oils complete avoidance is essential in all patients
  - ° Nuts and legumes (e.g., tree nuts, peas, beans, etc.)
- A low-histamine, low-FODMAP or similar diet may also be appropriate, based on intestinal health assessment(s). In addition, for patients who would benefit from reinvigoration of overall immune function, it may be appropriate to consider either supervised fasting or a fasting mimicking diet.



#### **Intestinal Microbial Balance:**

- Through activation of  $NF_{\kappa}B$  and other mechanisms, altered intestinal microbial balance can be a major source of cytokine activation. Gastrointestinal health and microbial balance can be investigated by stool assessment. Dietary changes, as outlined above, may be helpful in supporting microbial balance in the gastrointestinal tract of these patients.
- For additional support of intestinal microbial balance, consider the following product recommendations:
  - MicroDefense w/ Oregano
  - ° A.C. Formula® II

#### Stress:

- Stress drives the production of cortisol and epinephrine, which are known to diminish Th1 and natural killer cell populations. In turn, these immunological changes promote alterations in microbial balance and promote the gene expression of Th17-related cytokines, driving both the development of new self-tissue response and activation of existing self-tissue response.
- The following practices may be helpful in managing occasional stress:
  - Meditation
  - Journaling
  - Counseling
  - ° Adequate intake of key nutrients and adaptogenic herbs
- For additional support in managing occasional stress, consider the following product recommendations.
  - Phyto-ADR





# For more information, please visit **PureEncapsulations.com/pureresponse**

### #1 most trusted brand<sup>1</sup>

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<sup>‡</sup>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.