

# Th1 Support

Introduced 2018



## What Is It?

Th1 Support offers a blend of berberine, baicalin from Chinese skullcap, sulforaphane from broccoli, ginger, and zinc to promote healthy Th1-predominant cellular immune response and innate immunity.†

## Features

- Part of the PureResponse™ Immune Protocol for healthy immune balance and function†
- Maintains healthy immune biomarkers and cytokine balance related to cell tissue health and comfort†

**Enhancement of Immune Defense:** Th1 Support is designed to support healthy activation of Th1 cells to promote innate immunity and cell-mediated immune defenses. Th1 responses are affected by stress, aging, and cytokine changes resulting from metabolic, hormonal, physiological, and environmental factors. The product helps balance cytokine production in order to promote Th1 differentiation. Clinical and preclinical studies show that berberine positively influences immune biomarkers related to cell and tissue health. In vitro evidence suggests that berberine supports maturation of T cells into Th1 cells and production of IL-12, an important Th1-promoting cytokine. Sulforaphane from broccoli promotes various aspects of immunological homeostasis that maintain the health of mucosal cells. Cellular and animal models also suggest support for Th1-promoting interferon gamma (IFN<sub>γ</sub>) and IL-2 production. Baicalin from skullcap offers support for healthy production of IFN<sub>γ</sub>, promoting Th1-type immune responses, according to animal studies. Ginger modulates the production of IL-6 and TNF-alpha, according to preclinical data.†

## What is the Source?

Zinc is sourced from elemental ore. Picolinate is synthetic. Berberine HCl is derived from *Phellodendron amurense* bark and Sargent's barberry (*Berberis sargentiana*). Chinese skullcap extract is derived from *Scutellaria baicalensis* root. Broccoli sprout concentrate is derived from *Brassica oleracea italic* whole sprouts. Ginger extract is derived from *Zingiber officinale* root. Hypoallergenic plant fiber is derived from pine cellulose.

## Recommendations

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

## Are There Any Potential Side Effects or Precautions?

Not to be taken by pregnant or lactating women. Berberine has had reports of headache, nausea, vomiting, abdominal bloating, hypotension and slowed heart rate in the literature. There have been reports of G.I. upset from skullcap and zinc. There are reports of sedation, cognitive impairment, and vivid dreams from skullcap. Consult your physician for more information.

## Are There Any Potential Drug Interactions?

Individuals on blood pressure or anti-diabetes medications and taking berberine may require blood pressure or blood glucose monitoring. Ginger and broccoli sprout extract may be contraindicated with blood thinning medications. Skullcap may be contraindicated with CNS depressant or sedative medication due to an additive effect. Consult your physician for more information.

## Th1 Support

two vegetarian capsules contain	GF	NON-GMO	v	00
zinc (as zinc picolinate) .....	10 mg			
berberine HCl .....	500 mg			
Chinese skullcap ( <i>Scutellaria baicalensis</i> ) extract (root) .....	300 mg			
(standardized to contain 30% baicalin)				
broccoli ( <i>Brassica oleracea italic</i> ) sprout .....	100 mg			
concentrate (whole plant)				
(standardized to contain 400 mcg sulforaphane)				
ginger ( <i>Zingiber officinale</i> ) extract (root) .....	120 mg			
(standardized to contain 5% gingerols)				
other ingredients: vegetarian capsule (cellulose, water)				
2 capsules, 1-2 times daily, with meals, or as directed by a health professional.				

(continued)

PureResponse™ addresses the interrelationships between elements of the immune system, the environment and other biological processes, as overviewed in the roadmap on the next page (Figure 1). Although these basic connections are the same for all patients, each patient's manifestation is unique, with a greater emphasis on some elements compared to others.<sup>‡</sup>

## Navigating the Roadmap

The health of organs, connective tissue and other structures in the body is maintained, in part, by a set of immunological feedback loops that connect cell signaling cytokines, stress mediators and T-cell populations with far-reaching effects.

- Cytokine activation and self-tissue response (large red circles) activate each other. Cytokines are chemical messengers that allow the immune system to communicate. Self-tissue response occurs when the immune system mistakes tissue in the body for an immunological threat causing an immune response.
- Metabolic, hormonal, physiological and environmental factors (orange boxes) can influence cytokines. Cytokine balance is important for not only directing the immune response but also for its resolution.
- Stress and intestinal bacteria (smaller red circles) also influence cytokine activity. Persistent or excess cytokine activation may diminish innate immunity and the number of Th1 cells. Reductions in these key immune defenses can influence microorganism populations throughout the body. This is often exemplified by altered intestinal microbial balance. In turn, alterations in microbial balance can drive further cytokine activation.
- Th1/Th2 cell populations (blue circles) are deeply involved in immune system balance, natural defenses and tissue health. Higher Th1 status supports cell-mediated immune defenses and helps maintain innate immunity. Lower Th2 status helps to keep Th1 status strong, while maintaining sinus and respiratory tolerance to environmental particles.
- ★ Th17 status (purple stars) is affected by Th1/Th2 balance and is involved in healthy self-tissue response.

