

AI Balance Matrix

A blend of herbal extracts and nutrients that helps to balance the immune system, reduce inflammation and control auto-immune symptoms.

Vegan

Gluten Free

Dairy Free

Soy Free

Wheat Free

Yeast Free

No animal products

No artificial colours, flavours or preservatives

Sugar Free



- **AI Balance Matrix** is a foundational autoimmune support product with ingredients to ease inflammation, modulate the immune response and support gastrointestinal health
- *Bacillus coagulans* is a spore-forming probiotic designed to positively support the gut microbiota and, in turn, regulate immune function
- Quercetin is a bioflavonoid compound with anti-inflammatory, antioxidant and anti-allergic effects that has been studied in the management of several autoimmune conditions
- Curcumin provides antioxidant support, inhibits NF-kB overactivity, suppresses proinflammatory cytokines and has been shown to support management of multiple autoimmune diseases in a meta-analysis of clinical trials
- Milk thistle, skullcap and astragalus collectively have demonstrated to regulate Th1, Th17 and Treg differentiation, while suppressing proinflammatory cytokine production and finding positive clinical outcomes in experimental autoimmune conditions

A healthy immune system defends the body against disease and the outer world. At one time or another we've all experienced what may happen if our immune system is unsuccessful– the common cold, influenza and sinusitis are just some of the illnesses that can occur. Typically, these are transient with symptoms only persisting until our immune system can bounce back and respond. In a worse scenario, the immune system malfunctions by mistakenly attacking healthy cells, tissues, and organs. This failure to recognize self vs non-self is collectively known as autoimmunity and is not so transient.

There are currently over 80 autoimmune conditions that have been identified. These are multifactorial diseases with a variety of triggers including environmental and genetic. The hallmark pathological processes of autoimmune conditions are most typically inflammation, dysbiosis, increased intestinal permeability, and micronutrient deficiencies. An imbalance between Th1/Th17 and Th2/Treg cells has been found in autoimmune patients, with Th1 and Th17 pushing excessive production of proinflammatory cytokines. Knowing that autoimmunity cannot be cured, the goal is to guide patients into remission and help them stay in

remission while managing these pathological processes. Fortunately, there are a number of natural therapies that have been demonstrated to improve both symptoms and immune markers in autoimmune conditions.

It is well-established that the immune system is entangled with the digestive tract, being the first line of defense against the outer world. Multiple studies find that patients with autoimmune conditions have a significantly different composition of gut microbiota when compared to healthy controls, and we know that the microbiota plays an important role in the initiation, regulation, and maintenance of the immune system.

With this in mind, it only seems logical that probiotics would benefit immune regulation. Indeed, multiple studies have demonstrated the ability of probiotics to modulate the immune system and positively affect clinical endpoints. For example, *Bacillus coagulans*, a spore-forming probiotic, is able to normalize both the quantitative parameters of the immune system (the number of splenic lymphocytes, macrophages and T-lymphocytes) and the cells' functional activity to promote host immune system function. One double-blind clinical experiment demonstrated that *B. coagulans* PTA-6086 is an effective therapy for reducing pain markers and mobility in autoimmune patients.

As aforementioned, the successful management of autoimmunity requires both gastrointestinal support and inflammation management. This may be partly why curcumin, the active ingredient of turmeric with potent anti-inflammatory properties, shows such promise in autoimmune conditions. Curcumin is most often associated with its management of pain and inflammation, but it has also been shown to balance the immune system by restoring Th17/Treg and Th1/Th2 balance. Moreover, in a meta-analysis examining 31 randomized control

trials, curcumin was found to be an effective treatment in 10 different autoimmune diseases by reducing inflammation and providing antioxidant support. Specifically, curcumin has been found to inhibit NF- κ B overactivity and suppress proinflammatory cytokines such as IL-17, IL-1, IL-6, IL-23, TNF- α and IFN- γ .

Another well-recognized anti-inflammatory compound, more often used for its role in stabilizing histamine and allergic responses within the body, is quercetin. Quercetin is a natural flavonoid compound found in apples, onions and various berries. Perhaps most importantly, quercetin has anti-inflammatory, antioxidant and anti-allergic effects across multiple target tissues and has shown improvement in the management of several autoimmune conditions including multiple sclerosis.

In addition to turmeric, various herbal extracts also have immunomodulatory roles. *Astragalus membranaceus* has been shown to exert immunoregulatory and antiinflammatory actions, perhaps unsurprisingly given its common use for preventing the common cold. Specifically, it has been demonstrated to regulate differentiation and induce apoptosis of activated CD4+ T cells in the pathogenesis of experimental autoimmune encephalomyelitis.

Scutellaria baicalensis, likely through the action of its active ingredient baicalin, inhibits Th17 and Th1 differentiation, increases T-reg production, and suppresses proinflammatory cytokines such as IL-17, TNF- α and IFN- γ . Multiple animal studies using experimental autoimmune conditions have shown both positive outcomes in clinical endpoints and immune markers. These include reduced inflammation and demyelination in the central nervous system of experimental autoimmune encephalomyelitis and decreased intraocular inflammation in autoimmune uveitis.

Similar actions have also been seen by *Silybum marianum*, the well-known hepatoprotectant herb containing silymarin and silibinin. *Silybum marianum* downregulates Th1 differentiation, encourages Th17 apoptosis and suppresses the same proinflammatory cytokines IL-17 and TNF- α . Lastly, silibinin can act as an agonist to the estrogen receptor β (ER β), which is important because low expression of ER β has been correlated with increased disease activity in autoimmune conditions such as systemic lupus erythematosus.

AI Balance Matrix combines these 6 ingredients into one formula to offer clinicians a foundational formulation for supporting the complex clinical pictures of autoimmune patients. This evidence-based formulation provides ingredients to ease inflammation, modulate the immune response and support gastrointestinal health. **AI Balance Matrix** is meant to be the first step and foundational formula clinicians can build their protocols on.

Each vegetable capsule contains

<i>Bacillus coagulans</i> (U-IS2)	500 million CFU
Baikal skullcap (root, <i>Scutellaria baicalensis</i>) 12:1 extract equivalent to 3000mg of dry root, standardized to 30% baicalin	250mg
Curcumin (root, <i>Curcuma longa</i>)	100mg
Astragalus (root, <i>Astragalus membranaceus</i>) 8:1 extract equivalent to 600mg of dry root	75mg
Milk Thistle (seed, <i>Silybum marianum</i>) standardized to 80% silymarin	50mg
Quercetin (Quercetin dihydrate)	50mg

Non-Medicinal Ingredients

Microcrystalline cellulose, hypromellose, magnesium stearate.

Recommended Use Claim

Used in Herbal Medicine to help maintain a healthy immune system. Helps to support liver function. Used in Herbal Medicine as an adaptogen to help increase energy and resistance to stress (e.g. in case of mental and physical fatigue related to stress).

Directions of Use

Adults (19 years and older) - Take 2 capsules, 2 times per day. Take with food. Consult a healthcare professional for use beyond 12 weeks. To support liver function: Use for at least 3 weeks to see beneficial effects.

Cautions and Warnings

Do not use if • you have an immune-compromised condition (e.g. AIDS, lymphoma, patients undergoing long-term corticosteroid treatment). Consult a healthcare professional prior to use if • you are pregnant • you are breastfeeding • you have an autoimmune disorder • you have a fever • you are vomiting • you have bloody diarrhea • you have severe abdominal pain • you have gallstones • you have a bile duct obstruction • you have stomach ulcers • you have excess stomach acid. Consult a healthcare professional prior to use if you are taking • antiplatelet medication • blood thinners. Stop use and consult a healthcare professional if • hypersensitivity/allergy occurs • symptoms of digestive upset (e.g. diarrhoea) occur, worsen or persists beyond 3 days • you develop liver-related symptoms (e.g. yellowing of the eyes and/or skin, dark urine, abdominal pain, jaundice). Stop use if you experience abdominal discomfort such as • constipation • abdominal distention. Keep out of reach of children.

Storage Conditions

Do not use if safety seal is broken.