

Natural Medicine That Can Assist the Body in Dealing with Autoimmune Disorders

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Abstract

Autoimmune diseases are prevalent globally. Due to this epidemiological trend, scientists are investigating complementary and alternative treatments that can be used alongside mainstream care. Herbal medicines, vitamins, minerals, and phytochemicals derived from whole foods demonstrate significant immunomodulatory effects through multiple interconnected biological pathways. These natural substances can maintain T-cell quality, stability, and balance and regulate cell differentiation, cytokine production, and inflammatory regulators, including NF- κ B and interleukin. The rapid increase in peer-reviewed clinical trials and systematic reviews demonstrates that these natural therapeutic interventions target various pathophysiologic processes in autoimmune diseases, intestinal barrier disruptions, molecular mimicry, and modulated innate and adaptive immune responses. This immune system regulation differs from Ehrlich's Magic Bullet approach to illness treatment used in modern pharmacology with single-target synthetic medications, which may be less beneficial for many patients with autoimmune conditions. Ehrlich's Magic Bullet theory is a scientific concept that describes a targeted medical treatment that seeks out and destroys diseased cells while leaving healthy cells unharmed.

Clinical trials and comprehensive meta-analyses have found that specific natural substances help control autoimmune disease symptoms via distinct routes. These natural medications work by modulating immune cells, lowering inflammatory indicators, improving the intestinal barrier, and boosting tissue-healing mechanisms. Its unique multiple-site action, along with a more or less favorable side effect profile, makes it highly beneficial in chronic illness management, particularly autoimmune diseases when administered synergistically with or alongside standard care under the guidance of a practitioner.

Background Information

Autoimmune disorders are chronic conditions characterized by an inappropriate immune response against self-tissues, leading to persistent inflammation, progressive tissue damage, organ dysfunction, and substantial morbidity. Diseases such as rheumatoid arthritis, systemic lupus erythematosus (SLE), multiple sclerosis (MS), type 1 diabetes, and inflammatory bowel disease (IBD) can affect virtually any organ system or gland (Yasmeen et al., 2024). Autoimmune illnesses include loss of tolerance to self-antigens, autoantibodies, autoreactive T-cells, and cytokine and chemokine production due

to genetic predisposition, environmental factors, and inadequate immunity. Many illnesses are difficult to diagnose and treat due to heterogeneity.

The traditional autoimmune treatment approach comprises immunosuppressive drugs. Although these medicines halt disease progression, they can cause immune suppression, metabolic problems, cardiovascular events, and osteoporosis. Studies on immune system control and autoimmune diseases have improved therapeutic management employing cell-based therapy, biological agents, and pathophysiology. Many autoimmune diseases have chronic relapsing-remitting courses, and current conventional antirheumatic therapies are often insufficient to block disease progression or achieve desired therapeutic outcomes. This has led to the search for novel and adjunctive therapeutic interventions, such as dietary and microbiome interventions, stress reduction strategies, and immunomodulatory approaches that modulate specific local immune responses. This paper examines natural medicine as an alternative system of treatment for autoimmune diseases that boasts an integrated approach that works on fundamental bio-parameters while helping the body to heal itself. Unlike treating every aspect of immune function as ‘the enemy,’ natural interventions often stimulate recovery from immune dysregulation, decrease inflammation, promote tissue repair, and address the root causes such as leaky guts and oxidative stress. A more extensive system usually includes herbal medicines, nutrients, and dietary changes, which interact in order not only to improve general health but to combat autoimmune problems as well. As scientific evidence about these natural treatments has accumulated, it has become increasingly clear that they work through relatively complex pathways that can bolster standard medical therapies and may provide fewer side effects and a more favorable prognosis.

Immune System Modulators

Immunomodulation in autoimmune illnesses is a major focus of the investigation. Natural immune modulators are preferred to immunosuppressive medicines because they normalize the immune response and keep the body’s immune system healthy (Alhazmi et al., 2021). Natural substances have complicated immunological effects beyond suppression or stimulation. According to Łysakowska et al. (2023), medicinal mushrooms like Reishi and Turkey Tail, adaptogenic herbs like Astragalus membranaceus and Eleutherococcus senticosus, and important elements like vitamin D3, zinc, and selenium. These substances modulate T-helper cells and cytokines and boost regulatory T-cell function.

Several human and animal studies have shown that immune-modulating compounds are more effective when used as a holistically integrated part of immune-modulating treatment plans, paying much attention to the administration time, dose, and the patient’s response to other treatments. A study by Mironczuk-Chodakowska et al. (2021) shows that beta-glucans in medicinal mushrooms can stimulate the activity of natural killer cells while simultaneously decreasing autoimmune reactions. Astragalus may restore the balance of T-cells and regulate cytokine production ratios (Xu et al., 2023). The time of these interventions matters, especially since some compounds are more effective if ingested during specific examples of the disease process or in combination with other natural products. This refined way of immunomodulation is a milestone in the holistic therapy of autoimmune disease.

The table provides a summary of common immune system modulators:

<i>Immune Modulator</i>	<i>Natural Source / Category</i>	<i>Primary Immunological Actions</i>	<i>Effects in Autoimmune Context</i>	<i>Key Notes on Use</i>
Reishi (Ganoderma lucidum)	Medicinal mushroom	Modulates cytokine signaling; enhances regulatory T-cell (Treg) activity; supports immune balance	Helps reduce excessive immune activation while preserving immune surveillance	Rich in beta-glucans and triterpenes; often used in long-term immune-balancing protocols
Turkey Tail (Trametes versicolor)	Medicinal mushroom	Stimulates natural killer (NK) cell activity; balances Th1/Th2 responses	Supports immune resilience without triggering autoimmune flare-ups	Beta-glucans are key active compounds; often synergistic with other mushrooms

Beta-glucans	Found in medicinal mushrooms, yeast, oats	Activate innate immunity via macrophages and NK cells while regulating adaptive responses	Enhances immune defense while reducing inappropriate autoimmune responses	Dose and timing are critical; effects are modulatory rather than suppressive
Astragalus membranaceus	Adaptogenic herb	Regulates cytokine production; restores T-cell balance; enhances Treg function	Helps normalize immune dysregulation seen in autoimmune disease	Best used during immune recovery or remission phases rather than acute flares
Eleutherococcus senticosus (Siberian ginseng)	Adaptogenic herb	Modulates stress-related immune dysfunction; supports immune homeostasis	Reduces immune overreaction linked to chronic stress and inflammation	Often used to support immune endurance and stress resilience
Vitamin D3	Fat-soluble vitamin (sunlight, diet, supplements)	Regulates T-helper cell differentiation; promotes Treg activity	Strongly associated with reduced autoimmune activity and improved immune tolerance	Deficiency is common in autoimmune patients; serum levels should be monitored
Zinc	Essential trace mineral	Supports thymic function; regulates cytokine signaling and immune cell development	Helps maintain immune balance and reduces inflammatory signaling	Both deficiency and excess can impair immunity; dosing should be moderate
Selenium	Essential trace mineral	Antioxidant support; modulates inflammatory cytokines	Reduces oxidative stress and immune-mediated tissue damage	Narrow therapeutic window; often combined with zinc and vitamin D

Anti-inflammatory Compounds

Inflammation is persistent in autoimmune diseases, and the main hallmarks represent an uncontrollable pathological process leading to tissue damage and further pervasive immune disturbance. According to Moudgil and Venkatesha (2022), using natural anti-inflammatory agents has proved stunningly effective in managing this characteristic of autoimmune disease through various pathways. Turmeric's active ingredient is curcumin, and numerous molecular investigations on its potential reveal its numerous anti-inflammatory actions, including on NF- κ B, COX-2, and other inflammatory mediators (Fuloria et al., 2022). Omega-3 fatty acids, especially EPA and DHA from marine sources, exert strong effects on inflammation through the synthesis of SPMs and downregulation of the synthesis of inflammatory eicosanoids (Harwood, 2023). Flavonoid resveratrol in grapes and other plants is helpful as an anti-inflammatory, attenuating the inflammatory transcription factors and activating SIRT1 (Magrone et al., 2019). These compounds operate through various related pathways to coordinate the inflammation process perfectly.

The combinations of natural anti-inflammatory agents are more effective than the individual compounds. A study by Asghari et al. (2024) found out combining curcumin with omega-3 fatty acids results in better anti-inflammatory properties than when either of the substances is administered. Generally, natural anti-inflammatory substances help reduce the use of standard anti-inflammatory drugs in some patients and minimize many side effects related to the chronic use of such medications (Nunes et al., 2020). In addition, natural anti-inflammatory agents usually give additional effects, including free radical quencher and Sexton-Hebb effects (Mucha et al., 2021). Healthcare providers may prioritize natural remedies as they are practical and affordable in managing inflammation.

The table below summarizes common anti-inflammatory natural compounds helpful in autoimmune disorder's management:

Natural Compound	Primary Source	Key Molecular Targets / Pathways	Anti-Inflammatory Mechanisms	Relevance in Autoimmune Disorders	Additional Benefits
Curcumin	Turmeric (<i>Curcuma longa</i>)	NF-κB, COX-2, TNF-α, IL-1β, IL-6	Inhibits pro-inflammatory transcription factors and enzymes involved in inflammatory signaling	Reduces chronic inflammatory activity and tissue damage associated with autoimmune disease	Potent antioxidant; supports mitochondrial function and cellular resilience
Omega-3 Fatty Acids (EPA & DHA)	Marine sources (fish oil, algae)	Eicosanoid pathways, resolvins, protectins (SPMs)	Downregulates pro-inflammatory eicosanoids; promotes synthesis of inflammation resolving mediators	Helps restore inflammatory balance and reduce autoimmune-related inflammation	Cardiovascular protection; neuroprotective effects
Resveratrol	Grapes, berries, peanuts	NF-κB, SIRT1, STAT3	Suppresses inflammatory transcription factors and enhances anti-inflammatory gene expression	Attenuates immune-mediated inflammation and oxidative stress	Anti-aging effects; metabolic and endothelial support
Combination: Curcumin + Omega-3s	Botanical + marine synergy	Multiple inflammatory signaling cascades	Synergistic suppression of inflammatory mediators and enhanced resolution of inflammation	Demonstrates greater efficacy than single-agent use in reducing autoimmune inflammation	Allows reduction in reliance on conventional anti-inflammatory medications
Polyphenols (general)	Fruits, vegetables, herbs	MAPK, NF-κB, ROS pathways	Scavenge free radicals and inhibit inflammatory signaling	Supports long-term inflammation control in autoimmune conditions	Antioxidant and cytoprotective effects
Natural Anti-Inflammatory Compounds (overall class)	Plant- and marine-derived substances	Multiple interconnected pathways	Modulate inflammation without full immune suppression	Reduce chronic drug dependence and associated side effects	Improved tolerability, affordability, and multi-system support

Gut Health Support

The close relationship between gut health and autoimmune diseases has emerged more clearly over the past decade, showing that gut lining integrity and the composition of gut bacterial communities are critical for autoimmune diseases. Natural medicines that help promote gut health are essential in handling autoimmune diseases. For instance, L-glutamine is the primary fuel source for the intestinal cells and helps in safeguarding the barrier integrity (Wang et al., 2024). Collagen peptides rich in amino acids promote intestinal tissue redemption (Abrahams et al., 2022). Besides, probiotics ease inflammation and modulate immune reactions (Cristofori et al., 2021). These intercessions collectively improve the integrity of the gut barrier, decrease IP, and restore healthier occupying of gut microbiota, all of which are essential in mainstream autoimmune ailments.

Oral health care protocols involve interventions that will enhance the functions of an individual's gastrointestinal system. Partially hydrolyzed guar gum, resistant starch, slow-digesting carbs, and prebiotic fibers nourish beneficial bacteria and produce SCFAs, which stimulate regulatory T cells (Abe et al., 2023). Probiotics, prebiotics, fermented foods, and herbal remedies, including deglycyrrhizinated licorice and aloe vera, repair mucosa and restore microbiota (Mgbodile & Nwagu, 2023). Improved gut health indices are inversely proportional to autoimmune system symptoms and overall improvement, making this therapy advantageous.

The table below summarizes gut health interventions:

<i>Intervention / Compound</i>	<i>Primary Source or Type</i>	<i>Main Mechanism of Action</i>	<i>Effect on Gut Barrier & Microbiota</i>	<i>Role in Autoimmune Diseases</i>
L- Glutamine	Amino acid (dietary and supplemental)	Primary fuel for enterocytes; supports tight junction protein expression	Strengthens intestinal barrier integrity and reduces intestinal permeability (IP)	Helps prevent antigen translocation that can trigger autoimmune responses
Collagen Peptides	Animal-derived protein (collagen hydrolysates)	Provides glycine, proline, and hydroxyproline for tissue repair	Supports regeneration and repair of intestinal mucosa	Enhances gut lining resilience, reducing immune overactivation
Probiotics	Live beneficial microorganisms	Modulate immune signaling; compete with pathogenic bacteria	Restore microbial balance and reduce gut inflammation	Regulate immune responses and reduce autoimmune-related inflammation
Prebiotic Fibers	Plant-derived fibers (e.g., inulin, guar gum)	Nourish beneficial gut bacteria	Promote growth of commensal microbes and SCFA production	Indirectly support immune tolerance and gut integrity
Partially Hydrolyzed Guar Gum (PHGG)	Soluble Prebiotic Fiber	Fermented by gut bacteria to produce SCFAs	Improves stool consistency and microbiota diversity	Supports regulatory T-cell activation and immune balance
Resistant Starch	Slow-digesting carbohydrate	Fermented into SCFAs (especially butyrate)	Enhances mucosal health and epithelial integrity	Reduces inflammatory signaling associated with autoimmunity
Short-Chain Fatty Acids (SCFAs)	Metabolites of fiber fermentation	Activate regulatory T-cells and anti-inflammatory pathways	Strengthen gut barrier and reduce inflammation	Promote immune tolerance critical in autoimmune conditions
Fermented Foods	Yogurt, Kefir, sauerkraut. etc.	Provide live microbes and bioactive compounds	Enhance microbial diversity and gut resilience	Support immune modulation and digestive health
Deglycyrrhizinated Licorice (DGL)	Herbal Remedy	Enhances mucus production and mucosal repair	Protects and heals gastrointestinal lining	Reduces gut irritation linked to immune dysregulation
Aloe Vera	Medicinal Plant Extract	Anti-Inflammatory and mucosal-soothing effects	Supports gut lining repair and microbial balance	Helps reduce gut-driven inflammation in autoimmune disorders

Antioxidant and Cellular Protection

As oxidative stress contributes to tissue injury and autoimmune sequel in these disorders, incorporating antioxidants is an inherent aspect of natural medicine management of autoimmune diseases. In autoimmune diseases, the body's antioxidant defense mechanisms are knocked out, and tissue damage is enhanced (Pisetsky, 2023). Vaccine antioxidant components include vitamin C, vitamin E, glutathione and its precursors such as N-acetyl cysteine and polyphenol flavonoids, plant foods derived from green tea, grape seed extract, and pine bark extract (Gălbău et al., 2024). This means that such compounds function as direct free radical scavengers, enhancers of endogenous antioxidant enzymes, or through stimulation of cell protective pathways such as Nrf2.

These antioxidant protocols are not that straightforward as they involve thinking through the different antioxidant molecules and how they work in their significance to the cell. Many antioxidants may work synergistically, and their results are more effective than separate because they regenerate each other and act differently. For instance, vitamin C is involved in recycling oxidized vitamin E, and selenium is involved in the function of the glutathione peroxidase enzymes (Hondal, 2023). The image below shows vitamin C sources.

Furthermore, some plant polyphenols have been found to induce cellular antioxidant defense genes through modulation of epigenetic marks, which afford them longer-term protection rather than simply acting as antioxidants (Borsoi et al., 2022). These insights have categorically enhanced advanced technologies for preventing oxidation in autoimmune diseases.

The table below summarizes natural compounds which act as antioxidant and promote cellular protection:

Antioxidant Compound	Primary Source	Primary Mechanism of Action	Cellular / Molecular Targets	Role in Autoimmune Disease	Synergistic Interactions
Vitamin C (Ascorbic Acid)	Citrus fruits, berries, vegetables	Direct free radical scavenger; regenerates other antioxidants	ROS, oxidized vitamin E	Reduces oxidative tissue damage and supports immune cell function	Recycles oxidized vitamin E; enhances glutathione activity
Vitamin E (Tocopherols & Tocotrienols)	Nuts, seeds, vegetable oils	Lipid-soluble antioxidant protecting cell membranes	Lipid peroxides, cell membranes	Prevents oxidative damage to immune and epithelial cells	Regenerated by vitamin C
Glutathione (GSH)	Endogenously synthesized; supported by diet	Master intracellular antioxidant; detoxification support	ROS, xenobiotics, mitochondrial oxidative stress	Protects tissues from autoimmune-driven oxidative injury	Requires selenium for glutathione peroxidase activity
N-Acetyl Cysteine (NAC)	Synthetic form of cysteine	Precursor to glutathione synthesis	Redox balance, mitochondrial function	Restores depleted glutathione levels in autoimmune conditions	Works synergistically with selenium and vitamin C
Selenium	Brazil nuts, seafood, grains	Cofactor for antioxidant enzymes	Glutathione peroxidase, thioredoxin reductase	Reduces oxidative inflammation and immune-mediated tissue damage	Essential for glutathione enzyme function
Green Tea Polyphenols (EGCG)	Camellia sinensis	Activates Nrf2 pathway; scavenges free radicals	Nrf2, NF-κB, ROS	Provides long-term cellular protection beyond direct antioxidant action	Synergizes with vitamin C and other polyphenols
Grape Seed Extract	Grape Seeds	Potent polyphenolic antioxidant; supports endothelial protection	ROS, inflammatory transcription factors	Reduces oxidative stress linked to autoimmune inflammation	Regenerates other antioxidants and supports vascular health
Pine Bark Extract (Pycnogenol)	<i>Pinus pinaster</i> bark	Enhances endogenous antioxidant enzyme activity	Superoxide dismutase, catalase	Protects tissues from chronic oxidative damage	Works synergistically with vitamin C
Plant Polyphenols (general)	Fruits, vegetables, herbs	Epigenetic modulation and antioxidant gene induction	Nrf2, antioxidant response elements (ARE)	Supports long-term oxidative defense and immune balance	Often function best in diverse combinations

Conclusion and Future Impact

The field of natural medicine has advanced the care of people with autoimmune diseases by identifying supportive strategies, expanding the scientific evidence base supporting traditional practices, and identifying new mechanisms of action. These present the case for specific natural compounds, which further evidence of case-control and clinical trials reveals that they positively impact treatment symptoms, regulate immune response, and enhance quality of life among patients with autoimmune diseases. Such a two-factor natural medicine model that simultaneously targets inflammation, oxidative stress, gut, and immunomodulation makes more sense when fighting these multifactorial diseases. In addition, the relatively low risk of side effects from natural medicines also means that these remedies have the potential to confer lifelong benefits in milder cases similar to chronic illnesses or as adjuvants to conventional drugs in more serious instances of diseases.

The future management of autoimmune diseases relies on personalized medicine combining the elements of conventional and natural treatment modalities that assist the patient from a genetic, environmental, and clinical perspective, for an individual patient. New molecular techniques are now being employed to elucidate the natural products' pharmacology and mechanisms of action, and the application of genomics, metabolomics, and microbiome analytics is enhancing the utilization of natural medicines in clinical care. Such changes in understanding should improve the applications of multiple natural drugs in that they are used in specific ways to address specific patients' needs. More so, the increasing adoption of approaches to natural medicine by conventional medical practitioners points towards a future where treatment approaches to autoimmune diseases will be combined, which could contribute to improved patient outcomes globally.

References

1. Abe A., et al. "Partially hydrolyzed guar gum is associated with improvement in gut health, sleep, and motivation among healthy subjects". *Journal of Clinical Biochemistry and Nutrition* 72.2 (2023): 189-197.
2. Abrahams M, O'Grady R and Prawitt J. "Effect of a Daily Collagen Peptide Supplement on Digestive Symptoms in Healthy Women: 2-Phase Mixed Methods Study". *JMIR Formative Research* 6.5 (2022): e36339.
3. Alhazmi HA., et al. "Medicinal Plants and Isolated Molecules Demonstrating Immunomodulation Activity as Potential Alternative Therapies for Viral Diseases Including COVID-19". *Frontiers in Immunology* 12 (2021): 637553.
4. Asghari KM., et al. "The Effect of Curcumin and High-Content Eicosapentaenoic Acid Supplementations in Type 2 Diabetes Mellitus Patients: A Double-Blinded Randomized Clinical Trial". *Nutrition & Diabetes* 14.1 (2024): 14.
5. Borsoi FT., et al. "Dietary polyphenols and their relationship to the modulation of non-communicable chronic diseases and epigenetic mechanisms: A Mini-Review". *Food Chemistry: Molecular Sciences* 6 (2022): 100155.
6. Cristofori F., et al. "Anti-Inflammatory and Immunomodulatory Effects of Probiotics in Gut Inflammation: A Door to the Body". *Frontiers in Immunology* 12 (2021): 578386.
7. Fuloria S., et al. "A Comprehensive Review on the Therapeutic Potential of Curcuma longa Linn. In Relation to its Major Active Constituent Curcumin". *Frontiers in Pharmacology* 13 (2022): 820806.
8. Gălbău CŞ., et al. "The Potential of Plant Extracts Used in Cosmetic Product Applications-Antioxidants Delivery and Mechanism of Actions". *Antioxidants* 13.11 (2024): 1425.
9. Harwood JL. "Polyunsaturated Fatty Acids: Conversion to Lipid Mediators, Roles in Inflammatory Diseases and Dietary Sources". *International Journal of Molecular Sciences* 24.10 (2023): 8838.
10. Hondal RJ. "Selenium vitaminology: The connection between selenium, vitamin C, vitamin E, and ergothioneine". *Current Opinion in Chemical Biology* 75 (2023): 102328.
11. Łysakowska P, Sobota A and Wirkijowska A. "Medicinal Mushrooms: Their Bioactive Components, Nutritional Value and Application in Functional Food Production-A Review". *Molecules* 28.14 (2023): 5393.
12. Magrone T., et al. "Recent Advances on the Anti-Inflammatory and Antioxidant Properties of Red Grape Polyphenols: In Vitro and In Vivo Studies". *Antioxidants* 9.1 (2020): 35.

13. Mgbodile FC and Nwagu TNT. "Probiotic therapy, African fermented foods, and food-derived bioactive peptides in managing SARS-CoV-2 cases and other viral infections". *Biotechnology Reports* 38 (2023): e00795.
14. Mironczuk-Chodakowska I, Kujawowicz K and Witkowska AM. "Beta-Glucans from Fungi: Biological and Health-Promoting Potential in the COVID-19 Pandemic Era". *Nutrients* 13.11 (2021): 3960.
15. Moudgil KD and Venkatesha SH. "The Anti-Inflammatory and Immunomodulatory Activities of Natural Products to Control Auto-immune Inflammation". *International Journal of Molecular Sciences* 24.1 (2022): 95.
16. Mucha P, et al. "Overview of the Antioxidant and Anti-Inflammatory Activities of Selected Plant Compounds and Their Metal Ions Complexes". *Molecules* 26.16 (2021): 4886.
17. Nunes CDR, et al. "Plants as Sources of Anti-Inflammatory Agents". *Molecules* 25.16 (2020): 3726.
18. Pisetsky DS. "Pathogenesis of autoimmune disease". *Nature Reviews Nephrology* 19.8 (2023): 509-524.
19. Wang L, et al. "Effects of Dietary L-Glutamine Supplementation on the Intestinal Function and Muscle Growth of Piglets". *Life* 14.3 (2024): 405.
20. Xu Q, et al. "Synergist for antitumor therapy: Astragalus polysaccharides acting on immune microenvironment". *Discover Oncology* 14.1 (2023): 179.
21. Yasmeen F, et al. "Understanding Autoimmunity: Mechanisms, Predisposing Factors, and Cytokine Therapies". *International Journal of Molecular Sciences* 25.14 (2024): 7666.