

Total Immune Fortify & Protect



Clinical Applications

- Supports Healthy Immune and Respiratory Function*
- Supports Healthy Cytokine and Eicosanoid Balance*
- Designed as a Fast-Acting, Short-Term Formula*

Total Immune Fortify & Protect features three herbs that have been used traditionally for immune support and stimulation. Contemporary research on these herbs—*andrographis*, *licorice root*, and *indigowoad*—confirms the wisdom of their historical use. Terrain Holding Company's Total Immune Fortify & Protect formula may be especially helpful in supporting cytokine balance and respiratory function.*

All Terrain Holding Company Formulas Meet or Exceed cGMP Quality Standards

Discussion

Herbs have been used to support health and well-being throughout history and across cultures and are the cornerstone of many ancient medical systems, including Ayurveda and Traditional Chinese Medicine (TCM). Total Immune Fortify & Protect comprises three herbs that have been used traditionally and specifically to support the body's immune system.*

Andrographis Extract (*Andrographis paniculata*) Andrographis has been used widely in traditional medical systems as a bitter herb that works quickly to support upper respiratory health and immune response.^[1] TCM categorizes andrographis as “bitter” and “cold.” The herb has been used to support temperature regulation, respiratory health, immune function, and cytokine and eicosanoid balance.^[1-4] A randomized, double-blind, placebo-controlled study investigated the use of 1200 mg/day (standardized to 4% andrographolides) in 158 adult patients. Results revealed that individuals receiving the herb had a significant improvement in several of the parameters measured when compared to placebo. A “high degree of effectiveness” was observed by day two of treatment.*^[5]

Research on andrographolide, a major constituent of andrographis, suggests that this bioactive component supports immune activity in human cells by increasing proliferation of lymphocytes, production of interleukin-2, tumor necrosis factor-alpha, and cluster of differentiation (CD) marker expression.^[6,7] A phase I dose-escalating trial of andrographolide was conducted in a select group of individuals. A significant rise in mean CD4(+) lymphocytes was observed in individuals receiving 10 mg/kg andrographolide ($p = 0.002$).^[8] It was noted in the study that prolonged use of concentrated andrographolide may lead to dose-related (5-10 mg/kg) adverse effects for some individuals,^[1] a point that should be considered when calculating individual dosing. Acute toxicology studies in rodents noted no observed adverse effects at doses up to 5 g/kg of andrographolide. Researchers did note significant increases in white blood cell and lymphocyte counts as well as a reduction in urea, suggesting that andrographolide had immune-stimulant and renal protective effects.^[9] Andrographolide is standardized to 50% in Total Immune Fortify & Protect.*

Licorice Root Extract (*Glycyrrhiza glabra*) Medicinal use of licorice dates back to ancient Greece, China, India, and Egypt. Contemporary research suggests that its active component glycyrrhizin supports the human immune system in the presence of pathogens.^[10,11] A 2004 study found that glycyrrhizin more effectively supported immune function than other compounds studied (ribavirin, 6-azauridine, pyrazofurin, and mycophenolic acid).^[12] Research suggests that mechanisms of action for glycyrrhizin include induction of T-cell interferon-gamma and interference with the pathogen's membrane.*^[11]

Licorice also appears to play a role in maintaining a healthy mucous membrane (including that of the respiratory tract), stimulating mucus production, and supporting eicosanoid balance in the body.^[13] Long-term intake of high doses of glycyrrhizin may deplete potassium and exacerbate hypertension.^[13,14] Although general dosing for standardized glycyrrhizin ranges from 40 to 360 mg per day,^[10,13] and Total Immune Fortify & Protect provides approximately 40 mg of standardized glycyrrhizin per two-capsule dose, short-term supplementation with Total Immune Fortify & Protect is recommended.*

Indigowoad 10:1 Root Extract (*Isatis indigotica*) Indigowoad is commonly used in TCM to support the immune system and upper respiratory tract. A closer look at the mechanism of action for indigowoad root extract in animals revealed that the extract significantly increased spleen weight as well as the number of circulating white blood cells, lymphocytes in particular. The same study found that the indigowoad extract stimulated macrophage phagocytic activity and reduced the suppressive effect that hydrocortisone has on the immune system.^[15] A human neutrophil cell study indicated that the isaindigotone derivative of *I. indigotica* was able to scavenge superoxide free radicals and inhibit 5-lipoxygenase and leukotriene B(4) metabolism, ultimately supporting a healthy eicosanoid balance.*^[16]

*These statements have not been evaluated by the Food and Drug Administration.
This product is not intended to diagnose, treat, cure, or prevent any disease.

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Total Immune Fortify & Protect



Supplement Facts

Serving Size: 2 Capsules
Servings Per Container: 30

	Amount Per Serving	%Daily Value
Andrographis Extract (<i>Andrographis paniculata</i>)(stem)(50% andrographolides)	375 mg	**
Indigowoad 10:1 Extract (<i>Isatis indigotica</i>)(root)	300 mg	**
Licorice Extract (<i>Glycyrrhiza glabra</i>)(root)(25% glycyrrhizin)	158.4 mg	**

** Daily Value not established.

Other Ingredients: HPMC (capsule), stearic acid, magnesium stearate, silica, and medium-chain triglyceride oil.

Directions

Take two capsules daily, or as directed by your healthcare practitioner. Recommended for short-term use.

Consult your healthcare practitioner prior to use. Individuals taking medication should discuss potential interactions with their healthcare practitioner. Consult your healthcare practitioner if you have uncontrolled hypertension. Do not use if tamper seal is damaged.

References

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Does Not Contain

Wheat, gluten, yeast, soy, animal or dairy products, fish, shellfish, peanuts, tree nuts, egg, ingredients derived from genetically modified organisms (GMOs), artificial colors, artificial sweeteners, or artificial preservatives.

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