

ImmuneMedix™

Applications

- Immune Support



Introduction

NutraMedix ImmuneMedix™ offers broad-spectrum immune support for both innate (nonspecific) and adaptive (specific) immune function. It consists of **Noni fruit** (*Morinda citrifolia*), **Astragalus root** (*Astragalus mongholicus*), **Baikal skullcap root** (*Scutellaria baicalensis*), **Ligustrum fruit** (*Ligustrum lucidum*), **Poria sclerotium** (*Poria cocos*), **Goji berry** (*Lycium barbarum*), **Prunella spike** (*Prunella vulgaris*), **White peony root** (*Paeonia lactiflora*), **Reishi mushroom** (*Ganoderma lucidum*), **Cordyceps mushroom** (*Cordyceps sinensis*), and pentacyclic chemotype **Cat's claw bark** (*Uncaria tomentosa*).

Astragalus root, Baikal skullcap root, Ligustrum fruit, Poria sclerotium, Prunella spike, White peony root, Reishi mushroom, Goji berry, and Cordyceps mushroom have been used in traditional Chinese health practices for centuries,¹ and Noni fruit has been used in traditional Polynesian health practices for more than 2,000 years.² Cat's claw bark has both past and present use in the traditional health practices of Brazil and Peru.³

NutraMedix ImmuneMedix is made at our U.S. manufacturing facility using a specialized proprietary extraction process that optimizes the constituents of the herbs in their original, unprocessed state to obtain broad-spectrum concentration. Because our extracts are made in our own facility, we control all aspects of quality, including stringent ID testing, microbial testing,

and heavy metal testing. NutraMedix rigorously follows current good manufacturing practices (cGMP), as do our suppliers.

Healthy Immune Support

NK cells

Reishi mushroom (*Ganoderma lucidum*) may support normal NK cell activity, according to studies in vitro, in mice, and in rats;⁴⁻⁶ this is attributed to the secretion of perforin and granulysin secretion.⁵ Reishi mushroom may also support normal NK cell numbers in humans.⁷

Prunella spike (*Prunella vulgaris*) may support healthy NK cell activity, dose-dependently, in mice.⁸

Noni fruit (*Morinda citrifolia*) may support NK cells and activity in mice.^{9,10}

Cordyceps mushroom (*Cordyceps sinensis*) may support hepatic NK cells.¹¹

Macrophages

Reishi mushroom (*Ganoderma lucidum*) supports healthy macrophage function in vitro, attributed to cytokine and NO release.¹² It may also support macrophages in normal phagocytosis, according to a mouse study.¹³ In addition, Reishi mushroom may support primary macrophage polarization to M1.¹⁴

Cordyceps mushroom (*Cordyceps sinensis*) may support normal macrophage activity,¹⁵ as well as a normal cell cycle, according to an in vitro study examining the impact of macrophage-derived factors.¹⁶

Astragalus root (*Astragalus mongholicus*) polysaccharides have been shown to support M1 polarization and M1 to M2 ratio of macrophages in vitro.¹⁷

Prunella spike (*Prunella vulgaris*) supports normal macrophage function compared to a control, as found in a mouse study.⁸

Poria sclerotium (*Poria cocos*) also supports M1 polarization of macrophages in vitro.¹⁸

Dendritic cells

Astragalus root (*Astragalus mongholicus*) polysaccharides may support the normal functional maturation of dendritic cells, according to in vitro studies,¹⁷⁻¹⁹ attributed to the regulation of NF kappa B and MAPK pathways.¹⁹ Astragalus root may also regulate TLR4 to support the maturation of dendritic cells and a normal Th1 response.²⁰

Reishi mushroom (*Ganoderma lucidum*) polysaccharides may support normal differentiation of monocytes into dendritic cells, according to an in vitro study.²¹

Goji berry (*Lycium barbarum*) polysaccharides may support the maturation of dendritic cells, as found in an in vitro study.²²

Cordyceps mushroom (*Cordyceps sinensis*) may support normal dendritic cell activity, according to in vitro studies.¹⁵

Neutrophils

Reishi mushroom (*Ganoderma lucidum*) polysaccharides help support normal neutrophil phagocytosis and chemotaxis, according to an in vitro study.²³

T cells

Astragalus root (*Astragalus mongholicus*) and its polysaccharides may help support normal CD8+ T cell activity, according to studies in vitro and in mice.^{19,24} The constituent cycloastragenol binds to cathepsin B protein, which helps maintain normal MHC-1 degradation and support cell-surface membrane expression.²⁵

Reishi mushroom (*Ganoderma lucidum*) supports normal CD8+ T cell activity, as found in vitro and in rats,^{6,26} attributed to effects on IFN gamma and granzyme B pathways.²⁶ Reishi mushroom was also found to support a normal percentage of CD8+ T cells in humans.⁷

Goji berry (*Lycium barbarum*) polysaccharides may help maintain healthy levels of T cells in peripheral blood and tissue, promoting normal CD8+ T cell activity.²⁷

Poria sclerotium (*Poria cocos*), along with aloe and rosemary, may help maintain normal levels of CD8+ T cells according to a human study.²⁸

Cytokines

IL-1beta

Astragalus root (*Astragalus mongholicus*) may help maintain normal IL-1beta levels by regulating NF-kappaB activation.²⁹

Poria sclerotium (*Poria cocos*) may also help maintain normal IL-1beta levels, according to an in vitro study.¹⁴

White peony root (*Paeonia lactiflora*) contains paeoniflorin, which may help maintain normal expression of IL-1beta.³⁰

IL-2

Reishi mushroom polysaccharides may support IL-2 expression in T cells, according to in vitro and rat studies.^{6,31}

IL-6

Astragalus root (*Astragalus mongholicus*) polysaccharides may help maintain normal IL-6 levels, according to in vitro, mouse, and rat studies.^{17,24,32}

Poria sclerotium (*Poria cocos*) polysaccharide may help maintain normal IL-6 levels according to a mouse study.¹⁴

Goji berry (*Lycium barbarum*) polysaccharide may also help maintain normal levels of IL-6, as seen in a mouse study.³³

IL-12

Reishi mushroom (*Ganoderma lucidum*) may help support normal levels of IL-12, according to an in vitro study.¹²

Other

Baikal skullcap root (*Scutellaria baicalensis*) and its constituents baicalein, wogonin, and baicalin, may help maintain vascular endothelial growth factor (VEGF) already within the normal range, according to a meta-analysis.³⁴ Baikal skullcap root and its constituents may also support normal apoptosis, as found in the same meta-analysis.³⁴ In vitro studies have also shown that the constituents baicalin and wogonin help support normal apoptosis.^{35,36}

Astragalus root (*Astragalus mongholicus*) polysaccharides help maintain normal expression of PD-L1 protein, which helps maintain normal apoptosis; this support is attributed to supporting PD-L1 antibodies.^{37,38}

Cat's claw bark (*Uncaria tomentosa*) and its fractions may also support normal apoptosis, according to studies.³⁹⁻⁴¹

Ligustrum fruit (*Ligustrum lucidum*) may support normal apoptosis, according to an in vitro study.⁴²

Safety and Cautions

NutraMedix ImmuneMedix is generally well tolerated when used as directed. Possible side

effects may include nausea or gastrointestinal discomfort,⁴³⁻⁴⁸ and reishi may cause dizziness or dry mouth.⁴⁷

Do not use ImmuneMedix if you are pregnant, planning to become pregnant, or breastfeeding.^{43,49-51}

Components of this formula may interact with medications such as warfarin,^{43,47,50} anticoagulants,^{44,46,48,51} blood pressure medications,^{43,44,47,48,50,51} CNS depressants,⁵² cholinergic and anticholinergic medications,⁵² potassium-sparing diuretics,⁴³ hepatotoxic medications,⁴³ blood sugar medications,^{44,47,49} immunosuppressants,^{48,49,51} pharmaceutical lithium,^{44,49,53} estrogens,^{44,46} clozapine,⁴⁶ cyclophosphamide,⁴⁹ flecainide,⁵⁰ and phenytoin.^{43,46}

Safety is not documented in breastfeeding or pregnant women, or in children under age 3, due to insufficient safety research.

*This statement has not been evaluated by the Food and Drug Administration. This product is not intended to treat, cure, or prevent any diseases.

References

- Chen, J.K. & Chen, T.T. (2008). Chinese Herbal Formulas and Applications: Pharmacological effects & clinical research. Art of Medicine Press.
- Wang, M.Y., West, B.J., et al. (2002). *Acta Pharmacologica Sinica*, 23(12), 1127-1141.
- Arado, G.M., Amatto, P.P.G., et al. (2024). *Frontiers in Pharmacology*, 15, 1378408.
- Chang, Y.H., Yang, J.S., et al. (2009). *Bioscience, Biotechnology, and Biochemistry*, 73(12), 2589-2594.
- Chang, C.J., Chen, Y.Y., et al. (2014). *Innate Immunity*, 20(3), 301-311.
- Wang, C., Shi, S., et al. (2018). *Integrative Cancer Therapies*, 17(3), 674-683.
- Jin, X., Ruiz Beguerie, J., et al. (2016). *The Cochrane Database of Systematic Reviews*, 4(4), CD007731.
- Huang, R., Zhao, M., et al. (2013). *PloS One*, 8(10), e77355.
- Kim, H., Rahmawati, L., et al. (2022). *BMC Complementary Medicine and Therapies*, 22(1), 222.
- Lim, S.L., Goh, Y.M., et al. (2016). *Food & Function*, 7(2), 741-751.
- Peng, Y., Huang, K., et al. (2016). *Acta Pharmacologica Sinica*, 37(2), 204-216.
- Ahmadi, K., & Riazipour, M. (2007). *Iranian Journal of Immunology*, 4(4), 220-226.
- Chang, Y.H., Yang, J.S., et al. (2009). *In Vivo*, 23(5), 755-759.
- Song, X., Wang, W., et al. (2024). *Molecules*, 29(9), 2154.
- Chen, L., Liu, X., et al. (2024). *Molecules*, 29(21), 5107.
- Jordan, J.L., Nowak, A., et al. (2010). *Cancer Immunology, Immunotherapy*, 59(5), 789-797.
- Bamodu, O.A., Kuo, K.T., et al. (2019). *Nutrients*, 11(10), 2264.
- Hu, X., Hong, B., et al. (2023). *Molecules*, 28(5), 2140.
- Wang, D., Cui, Q., et al. (2022). *Biomedicine & Pharmacotherapy*, 155, 113541.
- Lin, Y.L., et al. (2009). *Journal of Leukocyte Biology*, 86(4), 877-889.
- Chan, W.K., Cheung, C.C., et al. (2008). *Journal of Hematology & Oncology*, 1, 9.
- Duan, X., et al. (2020). *Journal of Immunology Research*, 2020, 1751793.
- Hsu, M.J., Lee, S.S., et al. (2003). *British Journal of Pharmacology*, 139(2), 289-298.
- Ding, G., Gong, Q., et al. (2021). *Cancer Science*, 112(10), 4050-4063.
- Deng, G., Zhou, L., et al. (2022). *Journal for Immunotherapy of Cancer*, 10(10), e004874.
- Cao, L.Z., & Lin, Z.B. (2003). *Acta Pharmacologica Sinica*, 24(4), 321-326.
- Deng, X., Luo, S., et al. (2018). *Journal of Immunology Research*, 2018, 3431782.
- Yu, L., McGarry, S., et al. (2023). *PloS One*, 18(9), e0291254.
- He, X., Shu, J., et al. (2012). *Molecules*, 17(3), 3155-3164.
- Zhang, X.E., Pang, Y.B., et al. (2023). *PloS One*, 18(9), e0282275.
- Hsu, H.Y., Hua, K.F., et al. (2008). *Journal of Cellular Physiology*, 215(1), 15-26.
- Guo, M., Gao, J., et al. (2023). *Drug Design, Development and Therapy*, 17, 2107-2118.
- Xiong, G.F., Li, D.W., et al. (2019). *Medical Science Monitor*, 25, 3880-3886.
- Ma, M.Y., Niu, X.J., et al. (2023). *Annals of Medicine*, 55(2), 2247004.
- Orzechowska, B.U., Wróbel, G., et al. (2020). *International Immunopharmacology*, 79, 106114.
- Tan, W., Lu, J., et al. (2011). *Chinese Medicine*, 6, 27.
- Chang, H.L., Kuo, Y.H., et al. (2020). *International Journal of Medical Sciences*, 17(7), 939-945.
- Chang, F.L., Tsai, K.C., et al. (2020). *BioMed Research International*, 2020, 3415471.
- Rinner, B., Li, Z.X., et al. (2009). *Anticancer Research*, 29(11), 4519-4528.
- Dietrich, F., Kaiser, S., et al. (2014). *Food and Chemical Toxicology*, 67, 222-229.

- ⁴¹Zari, A., Alfarteesh, H., et al. (2021). *Molecules*, 26(4), 1066.
- ⁴²Tian, G., Chen, J., et al. (2019). *Cancer Cell International*, 19, 246.
- ⁴³NatMed Pro. (2023). Noni [monograph]. <https://naturalmedicines.therapeuticresearch.com/>
- ⁴⁴NatMed Pro. (2023). Baikal Skullcap [monograph]. <https://naturalmedicines.therapeuticresearch.com/>
- ⁴⁵NatMed Pro. (2021). Self-Heal [monograph]. <https://naturalmedicines.therapeuticresearch.com/>
- ⁴⁶NatMed Pro. (2024). Peony [monograph]. <https://naturalmedicines.therapeuticresearch.com/>
- ⁴⁷NatMed Pro. (2022). Reishi Mushroom [monograph]. <https://naturalmedicines.therapeuticresearch.com/>

- ⁴⁸NatMed Pro. (2024). Cordyceps [monograph]. <https://naturalmedicines.therapeuticresearch.com/>
- ⁴⁹NatMed Pro. (2024). Astragalus [monograph]. <https://naturalmedicines.therapeuticresearch.com/>
- ⁵⁰NatMed Pro. (2024). Goji [monograph]. <https://naturalmedicines.therapeuticresearch.com/>
- ⁵¹NatMed Pro. (2023). Cat's Claw [monograph]. <https://naturalmedicines.therapeuticresearch.com/>
- ⁵²NatMed Pro. (2024). Poria Mushroom [monograph]. <https://naturalmedicines.therapeuticresearch.com/>
- ⁵³NatMed Pro. (2019). Glossy Privet [monograph]. <https://naturalmedicines.therapeuticresearch.com/>

