

Ginseng : A Dietary Supplements as a Immune - Booster in Various Diseases

¹Chaugule Ashiya, ²Wakchaure Sayali M, ³Bhasale Sakshi S, ⁴Inamdar Sanobar M, ⁵Bhalerao Pooja A
Samarth Institute of Pharmacy, Belhe, Maharashtra, India^{1,2,3,4,5}

Abstract: *Ginseng is a perennial plant belonging to the Panax genus of the Araliaceae family, has been used in China, Korea & Japan as a traditional herbal medicine for thousands of years. Mechanistic studies suggest that ginseng, as dietary supplements plays a key role in disease prevention by modulating the immune function of human body. The root of Panax ginseng and Panax quinofolius are commonly known as Ginseng. Ginseng species and species and ginsenosides and their intestinal metabolism & bioavailability are coincisely introduced. Ginseng roots are well known for their high content of saponins, ginsenosides, phenolic compounds, including carbohydrates and carotenoids. Many active compounds can be found in all parts of plant, including amino acid, alkaloids, phenols, protein, polypeptide & vitamin B1 & B2. Ginseng has been used to increase physical endurance & lessen fatigue, to improve ability of cope with stress and to improve concentration.*

Keywords: Panax ginseng, American ginseng, Dietary supplement, vaccine Adjuvant, Acquired immunity, cytokine

REFERENCES

- [1] Y.-Z. Xiang, H.-C. Shang, X.-M. Gao, and B.-L. Zhang, "A comparison of the ancient use of ginseng in traditional Chinese medicine with modern pharmacological experiments and clinical trials," *Phytotherapy Research*, vol. 22, no. 7, pp. 851–858, 2008. View at: Publisher Site | Google Scholar
- [2] Ginseng: A dietary supplement as immune-modulator in various diseases. November 2018 *Trends in Food Science & Technology* 83 DOI:10.1016/j.tifs.2018.11.008
- [3] Ahmad, R., Ahmad, N., AlHudaithi, N., AlHebshi, A., and Bukhari, A. (2020). Extraction and UHPLC-DAD detection of undeclared substances in market-available dietary supplements and slimming products in Eastern region, Saudi Arabia: an application of principal component analysis. *Biomed. Chromatogr.* 34, e4698. doi:10.1002/bmc.4698 PubMed Abstract | CrossRef Full Text | Google Scholar
- [4] Kim MK, Lee JW, Lee KY, Yang DC. Microbial conversion of major ginsenoside Rb1 to pharmaceutically active minor ginsenoside Rd. *J Microbiol.* 2005;43:456–462. [PubMed] [Google Scholar]
- [5] Kim J.Y., Germolec, D.R., & Luster, M.I. (1990 a)- Panax ginseng as a potential immunomodulator studies in mice. *Immunopharmacology and immunotoxicology*, 12, 257-256.
- [6] Cui J, Garle M, Eneroth P, Bjorkhem I. What do commercial ginseng preparations contain? *Lancet.* 1994;344:134. [PubMed] [Google Scholar]
- [7] SYSTEMATIC REVIEW article *Front. Pharmacol.*, 17 July 2020 | <https://doi.org/10.3389/fphar.2020.01031> Clinical and Preclinical Systematic Review of Panax ginseng C. A. Mey and Its Compounds for Fatigue. Ting-Yu Jin, Pei-Qing Rong, Hai-Yong Liang, Pei-Pei Zhang, Guo-Qing Zheng* and Yan Lin*
- [8] Zhai, Zhanwen, Zhang, Dongquan & Ma, Weical (2017). Red ginseng oral liquid rich in ginsenosides saponins work synergistically to enhance Th1 and Th2 immune response induced by the foot and mouth disease vaccine. *Clinical & Vaccine Immunology*, 21, 133 - 1119.
- [9] Medically reviewed by Debra Rose Wilson, Ph.D., MSN, R.N., IBCLC, AHN-BC, CHT — Written by Joseph Nordqvist — Updated on May 16, 2021.
- [10] Adamko, D.J., Rosenthal, K.L., Shan, J., Wu, Y., & Sutherland, S. (2013). Activation of innate and adaptive immune response by a ginseng extract Google patents.
- [11] Asian ginseng". National Center for Complementary and Integrative Health, US National Institutes of Health, Bethesda, MD. September 2016. Retrieved 10 February 2017.

- [12] van kampen et. al., 2014 J.M van kamper, D.B Baranowski, C.A. Shaw, D.G. kay Panax ginseng is neuroprotective in a novel progressive model of parkinson's disease. *Experimental Gerontology*, 50 (2014), pp. 95-105.
- [13] Akerele O. WHO guideline for assessment of herbal medicines. *Fitoterapia*. 1992;63:99–104. [Google Scholar].
- [14] Baek SH, Bae ON, Park JH. Recent methodology in ginseng analysis. *J Ginseng Res*. 2012;36:119–134. doi: 10.5142/jgr.2012.36.2.119. [PMC free article] [PubMed] [CrossRef] [Google Scholar]
- [15] Y.-Z. Xiang, H.-C. Shang, X.-M. Gao, and B.-L. Zhang, “A comparison of the ancient use of ginseng in traditional Chinese medicine with modern pharmacological experiments and clinical trials,” *Phytotherapy Research*, vol. 22, no. 7, pp. 851–858, 2008. View at: [Publisher Site](#) | [Google Scholar](#)
- [16] G.-H. Lu, Q. Zhou, S.-Q. Sun, K. S.-Y. Leung, H. Zhang, and Z.-Z. Zhao, “Differentiation of Asian ginseng, American ginseng and Notoginseng by Fourier transform infrared spectroscopy combined with two-dimensional correlation infrared spectroscopy,” *Journal of Molecular Structure*, vol. 883-884, no. 1–3, pp. 91–98, 2008. View at: [Publisher Site](#) | [Google Scholar](#)
- [17] *Journal of Ginseng Research* Volume 42, Issue 2, April 2018, Pages 144-148 Research article Korean Red Ginseng exhibits no significant adverse effect on disease activity in patients with rheumatoid arthritis: a randomized, double-blind, crossover study Author links open overlay panel Soo-KyungCho1 Yoon-KyoungSung1.
- [18] Analytical Research to Determine the effects of the Components of ONGABO on the Viability of HepG2 Cancer Cells by Using the Sovereign, Minister, Assistant and Courier Principle (). Shin JH, et al. *J Pharmacopuncture*. 2012. PMID: 25780653 Free PMC article.
- [19] Sohn EH, Jang SA, Lee CH, Jang KH, Kang SC, Park HJ, Pyo SN. Effects of Korean red ginseng extract for the treatment of atopic dermatitis-like skin lesions in mice. *J Ginseng Res*. 2011;35:479–486. doi: 10.5142/jgr.2011.35.4.479. [PMC free article] [PubMed] [CrossRef] [Google Scholar]
- [20] Kim MK, Lee JW, Lee KY, Yang DC. Microbial conversion of major ginsenoside Rb1 to pharmaceutically active minor ginsenoside Rd. *J Microbiol*. 2005;43:456–462. [PubMed] [Google Scholar]