

# AdrenoForte DP

Herbal Cortisol Depletion Support | VA-113 / VA-937

## Key Features:

- Comparable effect to glandular tissue-containing formulas.
- Licorice helps to increase the cortisol level via its inhibitory effect on cortisol breakdown (ie. inhibition of 11-beta-hydroxysteroid dehydrogenases).
- Asian Ginseng helps to tonify the adrenal functions. In TCM, Panax ginseng tonifies Qi and Yang.
- Eleuthero to modulate the blood pressure and cortisol levels to prevent them from overshoot.
- Astragalus - "The King Herb of Qi" in TCM - to tonify Spleen and Lungs and enhance the immune functions.
- Highly concentrated Bacopa Extract (30:1; 50% bacopasides) - a potent Ayurvedic brain tonic to support cognitive function and memory. Also known as a cooling & bitter herb - balances the stimulatory effects of Licorice/Asian Ginseng/Astragalus.

## Clinical Applications:

- Stage 3 HPA-axis Dysfunction (a.k.a. "Adrenal Exhaustion")
- Tonify Kidney & Lung Qi, as well as Defensive Qi
- Alleviate the symptoms of Chronic Obstructive Pulmonary Disorder (COPD)
- Convalescence from general debility and chronic illness

## Description:

**AdrenoForte DP** is a synergistic herbal formula specifically designed to tonify the depleted adrenals and give the body a kick start to restore its physiological functions in Stage 3 Adrenal Exhaustion.

### Panax ginseng

Ginseng is an adaptogen and a tonic herb which helps improve physical and mental stamina. In TCM, Ginseng is known for its ability to boost Qi (vital energy), increase strength, and calm the spirit. Studies showed that Panax Ginseng was helpful for fatigue in patients with chronic illness.<sup>1</sup> Ginseng was also shown to modulate mood and cell-mediated immunity, and improve memory performance<sup>2</sup> and glucose metabolism<sup>3</sup>.

Ginsan, a polysaccharide isolated from Ginseng, is a potent immunomodulator capable of inducing mRNA expression of Th1 and Th2, restoring mRNA expression of INF-gamma and Th1, producing cytokines such as TNF-alpha, IL-1 beta, IL-2, IL-6, IL-12, IFN-gamma, and GM-CSF, stimulating proliferation of lymphoid cells, increasing heme oxygenase activity, and decreasing total CYP450 levels. Animal study indicated that Ginseng (containing acidic polysaccharide) helped enhance serum malondialdehyde and lactate dehydrogenase levels. It also reduced superoxide dismutase and glutathione peroxidase, which had potential therapeutic effects on chronic fatigue syndrome.<sup>4</sup>

Panax Ginseng has been shown to improve the symptoms of chronic obstructive pulmonary disease (COPD)<sup>5</sup> by inhibiting various pathophysiological processes in COPD. The main

### Quantity: 84 Vegetarian Capsules

#### Ingredients (per capsule):

(Each capsule contains 6110 mg Dried Herb Equivalent)

Asian Ginseng Extract (10:1) ( <i>Panax ginseng</i> ) (root).....	85 mg
(20% ginsenosides) (equivalent to 850 mg of dried herb)	
Astragalus Extract (12:1) ( <i>Astragalus membranaceus</i> ).....	100 mg
(root) (equivalent to 1200 mg of dried herb)	
Licorice Extract (8:1) ( <i>Glycyrrhiza glabra</i> ) (root).....	170 mg
(12% glycyrrhizin) (equivalent to 1360 mg of dried herb)	
Eleuthero Extract (10:1) ( <i>Eleutherococcus senticosus</i> ).....	75 mg
(root) (0.8% eleutherosides)	
(equivalent to 750 mg of dried herb)	
Bacopa Extract 30:1 ( <i>Bacopa monnieri</i> ) (whole plant).....	65 mg
(50% bacopasides) (equivalent to 1950 mg of dried herb)	
Vitamin B5 (from d-calcium pantothenate).....	10 mg

**Non-medicinal Ingredients:** Silicon dioxide, L-Leucine, pullulan/hypromellose (capsule)

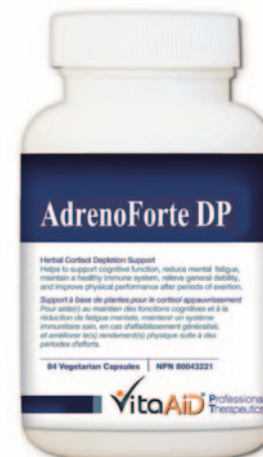
**Suggested Use:** Adults - Take 3 to 4 capsules a day, or as directed by a health care practitioner. Take this formula during the day (before 2 pm). Avoid taking in late afternoon or at night. Consult a health care practitioner for use beyond 4 weeks.

mechanisms of action include kinase phosphorylation inhibition (MAPK and ERK1/2), NF-kB induction and translocation, DNA binding, pro-inflammatory media-tor reduction (TNF-alpha, IL-6, IL-8, IL-1 beta, ROS), protease (MMP-9) reduction, and protection against oxidative stress.

### Astragalus

In TCM, Astragalus is used to support the 'Defensive Qi' (ie. immunity) and tonify Qi and Blood (ie. energy and nutrient/waste exchange). Studies have shown that Astragalus possess attributes such as hepatoprotective, cardiovascular enhancement, and immunomodulatory.<sup>6</sup> Astragalus is helpful for chronic hepatitis and it decreases glutamate pyruvate transaminase.<sup>7</sup> It is also capable of improving cardiac performance, relieving symptoms of angina pectoris, enhancing antioxidant activity of superoxide dismutase of RBC, decreasing lipid peroxidation of plasma, and increasing cardiac output.<sup>8,9</sup>

Astragalus has been shown to protect human cardiac microvascular endothelial cells against hypoxia and reoxygenation injury.<sup>10</sup> Proposed mechanism includes reducing levels of intracellular reactive oxygen species, intracellular free Ca<sup>2+</sup>, malondialdehyde, and B-cell lymphoma-2 associated X protein. Other mechanisms include increasing levels of nitric oxide, superoxide dismutase (SOD), B-cell lymphoma-2, and phosphatidylinositol 3-kinase.



Via its ability to increase IgA and IgG and enhance induction of interferon,<sup>11</sup> Astragalus can be considered a potential candidate for preventing and treating infectious diseases and immunocompromised related diseases.<sup>12</sup>

### Licorice

Glycyrrhizins, one of the constituents in licorice, inhibit 11-beta-steroid dehydrogenase, causing a decrease in the metabolism of cortisol (i.e. decreased conversion from active cortisol to inactive cortisone).<sup>13, 14, 15</sup> This in turn increases cortisol levels in the body.<sup>16, 17, 18</sup>

Therefore, licorice is more suitable for patients with Stage 3 Adrenal Fatigue where the adrenal glands fail to produce enough cortisol to manage the stress level. On the other hand, licorice is not suitable for patients with Stage 1 or 2 Adrenal Fatigue where the cortisol level is high due to disrupted cortisol circadian rhythm and over-stimulation of the nervous system.

### Eleuthero

*Eleutherococcus senticosus*, also known as Siberian Ginseng, is traditionally used to relieve general debility and restlessness, as well as to improve memory and stamina. It has been widely used by athletes to increase stamina, performance, and concentration. Numerous studies have been done on Eleuthero over the years.

One particular study reported that Eleuthero supplementation improved the ability to perform physical labour, the quality of proofreading, the speed and quality of work by telegraphers in noisy conditions, and the number of days lost to sickness among factory workers.<sup>19</sup> Eleuthero extract can also reduce cardiovascular response to stress, reduce heart rate and systolic blood pressure during stress by 40-60% after 30 days of treatment,<sup>20</sup> and enhance cellular defence, physical fitness, as well as lipid metabolism.<sup>21</sup>

### Bacopa

*Bacopa monnieri* has been used in Ayurvedic medicine for poor memory, comprehension, improvement of cognitive processes, and anxiety.<sup>22</sup> Constituents of Bacopa include bacopasides, bacopasaponins, bacosides, hersponin, brahmine, and etc.<sup>23</sup> Bacopasides and other saponins (bacosides and bacopasaponins) were responsible for memory-enhancing effects.<sup>24</sup>

It is thought that the antioxidant property of Bacopa extract is responsible for its cognition facilitatory, anti-stress, and anti-inflammatory effects.<sup>25</sup> Bacopa also possess anti-lipid peroxidation property.<sup>26</sup> Bacosides A & B help repair damaged neurons and regenerate synapses, thus help improve transmission of impulses between neurons.<sup>27</sup>

A clinical trial showed that a daily intake of 300 mg of Bacopa extract for 6 weeks resulted in significant improvement in cognitive function and memory.<sup>28</sup> An acute, double-blind, placebo-controlled cross-over study showed that acute Bacopa supplement resulted in adaptogenic and nootropic effects on test subjects.<sup>29</sup>

## Reference:

1. Arring, N., Millstine, D., Marks, L., & Nail, L. (2018). Ginseng as a Treatment for Fatigue: A systematic Review. *The Journal of Alternative and Complementary Medicine*, 0(0), 1-10.
2. Kennedy, O., Reay, L., & Scholey, B. (2007). Effects of 8 weeks administration of Korean Panax ginseng extract on the mood and cognitive performance of healthy individuals. *Journal of Ginseng Research*, 31(1), 34-43.
3. Shergis, J., Zhang, A., Zhou, W., & Xue, C. (2012). Panax ginseng Randomised Controlled Trials: A Systematic Review. *Phytotherapy Research*, 27(7), 949-965.
4. Ru, W., Wang, D., Xu, Y., He, X., Sun, Y., Qian, L., et al. (2015). Chemical constituents and bioactivities of Panax ginseng (C. A. Mey.). *Drug Discoveries & Therapeutics*, 9(1), 23-32.
5. Shergis, J., Di, Y., Zhang, A., Vlahos, R., Helliwell, R., Ye, J., & Xue, C. (2014). Therapeutic potential of Panax ginseng and ginsenosides in the treatment of chronic obstructive pulmonary disease. *Complementary Therapies in Medicine*, 22(5), 944-953.
6. Rountree, R. (2017). Astragalus (*Astragalus membranaceus* and *Astragalus mongholicus*): A Review of Clinical Therapeutics by the American Herbal Pharmacopoeia®. *Alternative and Complementary Therapies*, 23(3), 98-99.
7. Tang, W., & Eisenbrand, G. (1992). Chinese drugs of plant origin: Chemistry, pharmacology, and use in traditional and modern medicine. Berlin: Springer-Verlag.
8. Chen, L. X., Liao, J. Z., & Guo, W. Q. (1995). Astragalus membranaceus on left ventricular function and oxygen free radical in acute myocardial infarction patients and mechanism of its cardioprotective action. *Zhongguo Zhong Xi Yi Jie He Za Zhi*, 15, 141-143.
9. Lei, Z. Y., Qin, H., & Liao, J. Z. (1994). Action of *Astragalus membranaceus* on left ventricular function of angina pectoris. *Zhongguo Zhong Xi Yi Jie He Za Zhi*, 14, 199-202.
10. Xie, L., Wu, Y., Fan, Z., Liu, Y., & Zeng, J. (2016). Astragalus polysaccharide protects human cardiac microvascular endothelial cells from hypoxia/reoxygenation injury: The role of PI3K/AKT, Bax/Bcl-2 and caspase-3. *Molecular Medicine Reports*, 14(1), 904-910.
11. Yeung, S., Chang, H., But, P., Yao, S., & Wang, L. (1987). *Pharmacology and Applications of Chinese Materia Medica (Volume II)*. Singapore: World Scientific Publishing Company.
12. Zhao, L., Tan, S., Zhang, H., Liu, P., Tan, Y., Li, J., et al. (2018). Astragalus polysaccharides exerts anti-infective activity by inducing human cathelicidin antimicrobial peptide LL-37 in respiratory epithelial cells. *Phytotherapy Research*, 1-9.
13. Farese, R., Biglieri, E., Shackleton, C., Irony, I., & Gomez-Fontes, R. (1991). Licorice-Induced Hypermineralocorticoidism. *New England Journal of Medicine*, 325(17), 1223-1227.
14. Quinkler, M., & Stewart, P. M. (2003). Hypertension and the Cortisol-Cortisone Shuttle. *The Journal of Clinical Endocrinology and Metabolism*, 88(6), 2384-2392.
15. Olukoga, A., & Donaldson, D. (2000). Licorice and its health implications. *The Journal of the Royal Society for the Promotion of Health*, 120(2), 83-89.
16. White, P., Mune, T., & Aganwal, A. (1997). 11-Hydroxysteroid Dehydrogenase and the Syndrome of Apparent Mineralocorticoid Excess. *Endocrine Reviews*, 18(1), 135-156.
17. Asl, M. N., & Hosseinzadeh, H. (2008). Review of Pharmacological Effects of *Glycyrrhiza* sp. and its Bioactive Compounds. *Phytotherapy Research*, 22(6), 709-724.
18. Foster, C. A., Church, K. S., Poddar, M., Uum, S. H., & Spaic, T. (2017). Licorice-induced hypertension: A case of pseudohyperaldosteronism due to jelly bean ingestion. *Postgraduate Medicine*, 129(3), 329-331.
19. Hartz, A. J., Bentler, S., Noyes, R., Hoehns, J., Logemann, C., Sinift, S., Butani, Y., Wang, W., Brake, K., Ernst, M., Kautzman, H. (2004). Randomized controlled trial of Siberian ginseng for chronic fatigue. *Psychological Medicine*, 34, 51-61.
20. Facchinetti, F., Neri, I., Tarabusi, M. (2002). *Eleutherococcus senticosus* reduces cardiovascular stress response in healthy subjects: a randomized, placebo controlled trial. *Stress and Health*, 18, 11-17.
21. Szolomicki, S., Samochowiec, L., Wojcicki, J., Drozdziak, M. (2000). The influence of active components of *Eleutherococcus senticosus* on cellular defense and physical fitness in man. *Phytotherapy research*, 14, 30-35.
22. Mukherjee, G. D., & Dey, C. D. (1966). Clinical trial on Brahmi. I. *Journal of Experimental Medical Sciences*, 10(1), 5-11.
23. Chakravarty, A. K., Garai, S., Masuda, K., Nakane, T., & Kawahara, N. (2003). Bacopasides III-V: three new triterpenoid glycosides from *Bacopa monniera*. *Chemical and Pharmaceutical Bulletin*, 51(2), 215-217.
24. Calabrese, C., Gregory, W. L., Leo, M., Kraemer, D., Bone, K., Oken, B. (2008). Effects of a Standardized *Bacopa monnieri* Extract on Cognitive Performance, Anxiety, and Depression in the Elderly: A Randomized, Double-Blind, Placebo-Controlled Trial. *The Journal of Alternative and Complementary Medicine*, 14(6), 707-713.
25. Dahanekar, S., & Thatte, U. (1997). Current status of ayurveda in phytomedicine. *Phytomedicine*, 4(4), 359-368.
26. Tripathi, Y. B., Chaurasia, S., Tripathi, E., Upadhyay, A., & Dubey, G. P. (1996). *Bacopa monniera* Linn. as an antioxidant: mechanism of action. *Indian Journal of Experimental Biology*, 34(6), 523-526.
27. Rastogi, S., & Kulshreshtha, D. K. (1998). Bacoside A2—A triterpenoid saponin from *Bacopa monniera*. *Indian Journal of Chemistry B*, 38, 353-356.
28. Kumar, N., Abichandani, L. G., Thawani, V., Gharpure, K. J., Naidu, M. U., & Ramana, G. V. (2016). Efficacy of Standardized Extract of *Bacopa monnieri* (Bacognize®) on Cognitive Functions of Medical Students: A Six-Week, Randomized Placebo-Controlled Trial. *Evidence-Based Complementary and Alternative Medicine*, 1-8.
29. Benson, S., Downey, L. A., Stough, C., Wetherell, M., Zangara, A., & Scholey, A. (2013). An Acute, Double-Blind, Placebo-Controlled Cross-over Study of 320mg and 640mg Doses of *Bacopa monnieri* (CDRI 08) on Multitasking Stress Reactivity and Mood. *Phytotherapy Research*, 28(4), 551-559.

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