

CRT-lief / Cortilief



Alleviate High Cortisol State & Support Healthy Stress-Response

VA-161

Key Features:

- High-Dose **Phosphatidylserine** (150 mg/capsule) from sunflower seeds - promotes recovery from physical & mental exertions by stabilizing cortisol levels*
- Highly Concentrated **Magnolia (90% honokiol)** & **Phellodendron (85% berberine)** - powerful anxiolytic & cortisol-modulating actions*
- **Ashwagandha + Wild Jujube Seed** (natural GABA agonist) + **L-Theanine** to optimize stress-scoping response and promote relaxation & sleep*

Indications:

- HPA Axis Dysregulation caused by chronic high stress
- Post-workout Recovery
- Promote relaxation & sleep

Description:

Cortisol is one of the major tools the body uses to counteract adverse effects from stress; its levels are regulated predominantly by the Hypothalamus-Pituitary-Adrenal (HPA) axis.

Normally, our cortisol levels rise and fall throughout the day, following a circadian rhythm. The diurnal cortisol levels are relatively high to help maintain alertness and cognitive function while the nocturnal levels are low to promote relaxation and sleep.

However, when HPA axis fails to function properly, the it progresses through stages (1 to 4) of dysregulation resulting in symptoms, such as insomnia/restless sleep, general tiredness, or declined cognitive ability and lowered immune function.

Cortilief is specifically formulated to target Stages 1 & 2 of HPA axis dysregulation (Over-stimulation & Restlessness), as well as any other circumstances that require support in reducing high cortisol levels, such as systemic inflammation and post-intense workout.

Phosphatidylserine (PS)

PS plays a key role in neuronal cell structure and functioning, and improvement in memory, learning, mood and stress-coping mechanism.^[1,2] It has been shown to **decrease ACTH and cortisol responses to acute physical and mental stress.** ^[3,4] PS has also demonstrated its benefits in bipolar and major depressive disorders, as well as reducing the risk of neurodegenerative conditions.

Daily 400 mg of PS has been shown in randomized controlled trials (RCTs) to significantly normalize the ACTH and cortisol (salivary and serum) levels, as well as positive effect on emotional wellbeing of the subjects, in response to an acute psychosocial stressor (i.e. Trier Social Stress Test (TSST)).^[5]

Quantity: 56 Vegetarian Capsules

Ingredients (per capsule):

Phosphatidylserine (from <i>Helianthus annuus</i> seed).....	150 mg
Ashwagandha Extract (<i>Withania somnifera</i>) (7:1).....	150 mg (7% withanolides) (root) (1,050 mg DHE*)
Wild Jujube Extract (<i>Ziziphus spinosa</i>) (18:1).....	75 mg (2% triterpene saponins) (seed) (1,350 mg DHE*)
Magnolia Extract (<i>Magnolia officinalis</i>) (72:1).....	10 mg (90% honokiol) (bark) (1,720 mg DHE*)
Phellodendron Extract (<i>Phellodendron amurense</i>).....	10 mg (85% berberine) (bark)
L-Theanine.....	50 mg

*DHE - Dried Herb Equivalent

Non-medicinal Ingredients: L-leucine, silicon dioxide, hypromellose (capsule)

Suggested Use: Adults - Take 1 capsule at bedtime, or as directed by your health care practitioner. May increase to 2-3 capsules during times of acute stress.

The beneficial effect was more pronounced in people under chronic stress.^[6]

PS (600-750 mg QD for 10 days) has been demonstrated in RCTs to significantly improve the exercise capacity; it is able to modulate cortisol spikes, negate exercise-induced stress, and prevent the physiological deterioration accompanied by over-exercising.^[7,8]

Magnolia (Honokiol) & Phellodendron (Berberine)

Both magnolia and phellodendron are commonly used in Traditional Herbal medicine for reducing stress and anxiety. Research has demonstrated the combination can reduce cortisol, promote emotional well-being, and curb stress-related eating.^[9]

The most bioactive constituents in Magnolia and Phellodendron (M&P) responsible for their anti-stress, anxiolytic effects are honokiol and berberine, respectively. They work by modulating the activity of various neurotransmitters and biochemical reactions in the brain, such as neurotrophic factor, acetylcholine, and acetylcholinesterase.^[10]

In an RCT involving 56 subjects screened for moderate stress levels, the participants were randomized to receive either 500 mg/day of



a standardized M&P combination (containing **11.7 mg of honokiol and 1.1 mg of berberine**) or placebo for 4 weeks.^[10] After the intervention period, salivary cortisol levels were significantly lower by 18% (p<0.05) in the M&P group compared to placebo. Mood state parameters* were also significantly improved (p<0.05).

*Overall stress (-11%), Tension (-13%), Depression (-20%), Anger (-42%), Fatigue (-31%), Confusion (-27%), Global Mood State (+11%), and Vigor (+18%).

Ashwagandha

Ashwagandha (*Withania somnifera*) is traditionally used in Ayurvedic medicine to relieve general debility, especially during convalescence or old age, to balance aggravated "Vata" (nervine tonic), and to enhance memory. It is suggested that ashwagandha may influence adrenal hormone activity by supporting normal hypothalamic-pituitary-adrenal (HPA) axis function and T4-T3 conversion. Ashwagandha also interacts with areas of the brain, spinal cord, and central nervous system as recent research suggests that ashwagandha enhances cholinergic activity in the brain, which helps to explain the reported memory and cognition enhancing effects of ashwagandha extract.^[11]

Wild Jujube (seed)

Wild Jujube seed (also known as Suan Zao Ren) has been widely used to help with anxiety and restlessness. Research findings have shown that its anxiolytic effect is attributed to one of its main alkaloid constituents -sanjoinine A - acting on the GABA-receptors.^[12,13]

Traditional Chinese Medicine (TCM) regards jujube seed as a sedative herb for nourishing Liver blood and calming Heart shen (spirit).^[14] When Liver blood is deficient, the deficiency-heat will ascend and affect the mind (ie. Liver Yang Rising). Such medicinal property makes wild jujube seed the chief herb (70%) in Suan Zao Ren Tang (Sour Jujube Decoction) - one of the most popular patent TCM formulas for insomnia, night sweat, palpitations, irritability and anxiety.

L-Theanine

L-theanine is an amino acid found predominately in green tea and has a remarkable effect on relaxation.^[15] It has been shown to increase alpha brain wave activity, which is a measure of relaxation and decreased anxiety, coupled with increased focus and mental alertness. L-theanine also leads to increased creativity, improved performance under stress, improved learning, and improved concentration.

Reference:

1. Benton D, Donohoe RT, Sillance B, Nabb S: The influence of phosphatidylserine supplementation on mood and heart rate when faced with an acute stressor. *Nutr Neurosci* 2001, 4:169–178.
2. Vakhapova V, Cohen T, Richter Y, Herzog Y, Korczyn AD: Phosphatidylserine containing omega-3 fatty acids may improve memory abilities in non-demented elderly with memory complaints: a double-blind placebo-controlled trial. *Dement Geriatr Cogn Disord* 2010, 29:467–474.
3. Monteleone P, Beinat L, Tanzillo C, Maj M, Kemali D: Effects of phosphatidylserine on the neuroendocrine response to physical stress in humans. *Neuroendocrinology* 1990, 52:243–248.
4. Monteleone P, Maj M, Beinat L, Natale M, Kemali D: Blunting by chronic phosphatidylserine administration of the stress-induced activation of the hypothalamo-pituitary-adrenal axis in healthy men. *Eur J Clin Pharmacol* 1992, 41:385–388.
5. Hellhammer et al. Effects of soy lecithin phosphatidic acid and phosphatidylserine complex (PAS) on the endocrine and psychological responses to mental stress. *Stress*. 2004; 7(2): 119-126.
6. Hellhammer et al. A soy-based phosphatidylserine/phosphatidic acid complex (PAS) normalizes the stress reactivity of HPA axis in chronically stressed male subjects: a randomized, placebo-controlled study. *Lipids in Health and Disease*. 2014; 13:121.
7. Kingsley et al. Effects of phosphatidylserine on exercise capacity during cycling in active males. *Med Sci Sports Exerc*. 2006; 38(1): 64-71.
8. Starks et al. The effects of phosphatidylserine on endocrine response to moderate intensity exercise. *J Int Soc Sports Nutr*. 2008; 5:11.
9. Garrison R, Chambliss WG. Effect of a proprietary Magnolia and Phellodendron extract on weight management: a pilot, double-blind, placebo-controlled clinical trial. *Altern Ther Health Med*. 2006; 12(1): 50-54.
10. Talbott SM, Talbott J, Pugh M. Effect of Magnolia officinalis and Phellodendron amurense (Relora) on cortisol and psychological mood state in moderately stressed subjects. *J Int Soc Sports Nutr*. 2013; 10:37.
11. Schliebs R, Liebmann A, Bhattacharya SK, Kumar A, Ghosal S, and Bigl V. Systemic administration of defined extracts from *Withania somnifera* (Indian ginseng) and shilajit differentially affects cholinergic but not glutamatergic and gabaergic markers in rat brain. *Neurochem Int* (1997), Vol. 30 (2):181- 190.
12. Jiang JG, Huang XJ, Chen J. Separation and purification of saponins from Semen Ziziphus jujuba and their sedative and hypnotic effects. *J Pharm Pharmacol* . 2007;59(8):1175-1180.
13. Han H, Ma Y, Eun JS, Li RH, Hong JT, Lee MK, Oh KW. Anxiolytic-like effects of sanjoinine A isolated from Ziziphi Spinosi Semen: Possible involvement of GABAergic transmission. *Pharmacology Biochemistry and Behavior* (2009). Vol 92 (2): 206-213.
14. Chen JK, Chen TT. Chinese Herbal Formulas and Applications: Pharmacological Effects & Clinical Research (2009).
15. Juneja LR, Chu D-C, Okubo T, et al. L-theanine – a unique amino acid of green tea and its relaxation effect in humans. *Trends in Food Science & Technology*. 1999; 10: 199-204.

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