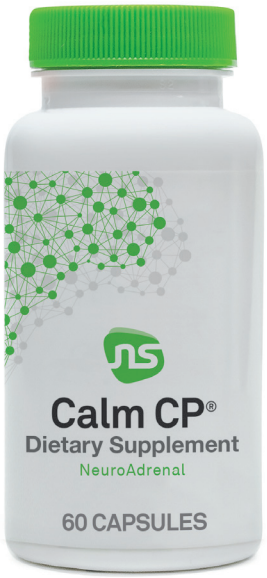
NeuroScience®




# Calm CP®

## Decreases cortisol activity and provides ingredients important for calm, sleep, and management of healthy blood sugar*

**Patient Profile†**

- ☐ Experiencing stress (such as physical, emotional, or immune)*
- ☐ Interrupted sleep, waking in the night*
- ☐ Difficulty falling back asleep*
- ☐ New or increasing abdominal fat*

## Key Ingredients

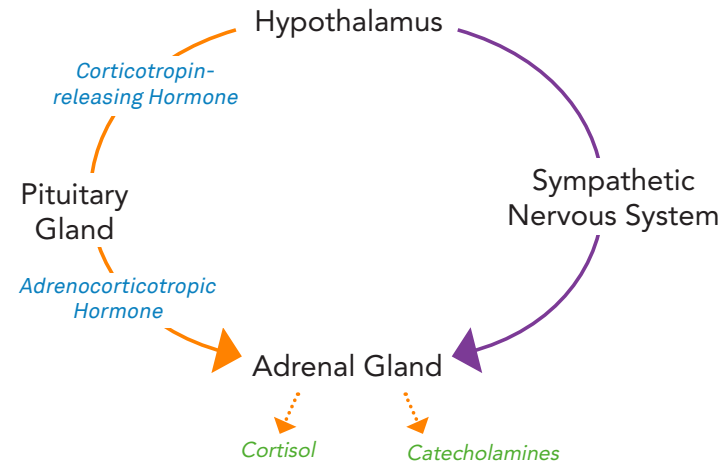
| | |
|---|---|
| *Lagerstroemia speciosa* (Banaba) leaf extract (18% corosolic acid) | ■ Corosolic acid balances by **selective inhibition of 11β-hydroxysteroid dehydrogenase 1** (11β-HSD1)[1]*<br>■ 11β-HSD1 catalyzes the conversion of cortisone into cortisol[2] |
| Phosphatidyl-serine‡ | ■ Component of cell membranes important for receptor-mediated interactions[4]*<br>■ Phosphatidylserine is thought to interact with cell membranes in order to dampen hypothalamic signaling and **regulate the stress response**[5]* |
| Glycine | ■ Major inhibitory neurotransmitter that crosses the blood-brain barrier[6]*<br>■ Binds receptors that **regulate temperature during sleep**[7]* |
| Taurine | ■ Neuroprotective amino acid that provides **antioxidant protection**[8,9]*<br>■ Demonstrates balanced GABA-A agonist activity[10]*<br>■ GABA is the primary inhibitory neurotransmitter in the brain important for **calm** and **sleep**[11-13] |



## The Science

- In response to **stress**, the sympathetic nervous system (SNS) and hypothalamic-pituitary-adrenal (HPA) axis signal to the adrenals to release catecholamines (norepinephrine and epinephrine) and cortisol[14]
- While stress is a normal part of life, it can also be associated with imbalances in the HPA axis that can affect catecholamine and cortisol activity[15]

### NeuroAdrenal Response



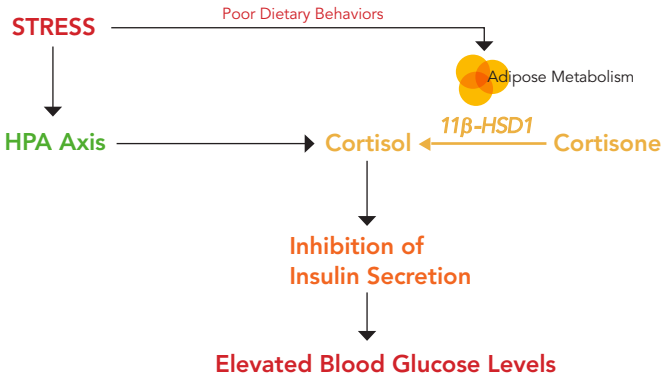

*Green = Biomarker* *Blue = Hormone*
*Orange = Hypothalamic-Pituitary-Adrenal (HPA) axis* *Purple = Sympathomedullary Pathway*

† Symptom depictions represent a possible presentation based on scientific information and claims found on this sheet, references provided on reverse.

***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.**

# MORE SCIENCE BEHIND CALM CP

Figure 1. HPA Axis and Cortisol Metabolism




## Stress, cortisol, and weight

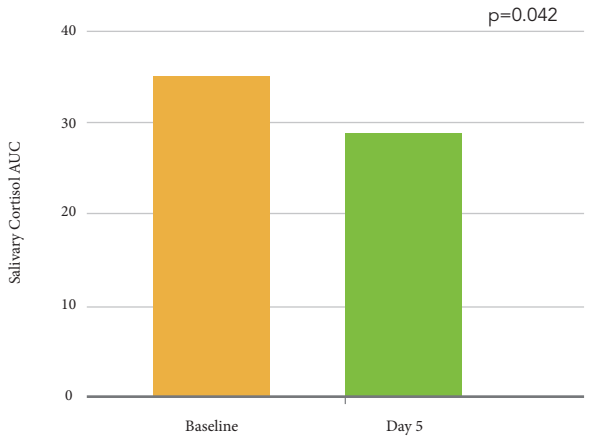
### Healthy cortisol secretions follow a marked circadian pattern and increases in response to stress through activation of the HPA axis[16]

- Adipocytes (fat cells) play a major role in the body's production of cortisol[17]

### High stress has been linked to less healthy dietary behaviors and increased body weight[18]

- Cortisol inhibits the secretion and actions of insulin (glucose uptake, central appetite reduction)[19]
- Cortisol promotes the maturation of adipocytes (fat cells)[20]
- Upregulation of the enzyme 11β-HSD1 promotes fat accumulation by increasing cortisol activity[20]
- Elevated bedtime cortisol activity is associated with imbalance and increased abdominal fat[21]

Figure 2. Calm CP Lowers Cortisol[22]*




## Proven benefits of Calm CP

### Data reveals corosolic acid lowers blood glucose levels for balanced activity[3]*

- Data was reviewed and 10 subjects received corosolic acid once daily for 15 days[3]
- **Blood glucose levels were 20-30% lower** with more balanced activity after two weeks[3]*

### Calm CP formula specific data was gathered

- Subjects with elevated cortisol activity recieved Calm CP (2 capsules twice daily for 4 days)
- Daily cortisol activity was lowered, bringing levels back into balance (area under the curve-compared to baselines values (Figure 2)[22]*
- Calm CP decreased mean daily cortisol activity levels by 17%[22]*
- 71% of subjects reported they would take Calm CP again


NeuroScience®

| Item Number | Available Sizes | Serving Size |
|---|---|---|
| 2099 | 60 Capsules | 2 Capsules |

## Concerned about memory?

Learn more about ImmuWell at www.neuroscienceinc.com/products/immuwell


1. Rollinger J, et al. Bioorg Med Chem. 2010;18(4):1507-15.
2. Patel H, et al. Arabian Journal of Chemistry. 2015.
3. Judy W, et al. J Ethnopharmacol. 2003;87(1):115-7.
4. Monteleone P, et al. Eur J Clin Pharmacol. 1992;41:385-8.
5. Glade M and Smith K. Nutrition. 2015;31(6):781-6.
6. Kawai N, et al. Amino Acids. 2012;42(6):2129-37.
7. Kawai N, et al. Neuropsychopharmacology. 2015;40(6):1405-16.
8. Kumari N, et al. Adv Exp Med Biol. 2013;775:19-27.
9. Shimada K, et al. Adv Exp Med Biol. 2015;803:581-96.
10. Kletke O, et al. PLoS One. 2013;8(4):e61733.
11. Gou Z, et al. Dongwuxue Yanjiu. 2012;33(E5-6):E75-81.
12. Mohler H. Neuropharmacology. 2012;62(1):42-53.
13. Saper C, et al. Nature. 2005;437(7063):1257-63.
14. Lee D, et al. BMB Rep. 2015;48(4):209-16.
15. Krizanova O, et al. Stress. 2016;19(4):419-28.
16. Elder G, et al. Sleep Med Rev. 2014;18(3):215-24.
17. Incollingo Rodriguez A, et al. Psychoneuroendocrinology. 2015;62:201-18.
18. Moore C and Cunningham S. J Acad Nutr Diet. 2012;112(4):518-26.
19. Andrews R and Walker B. Clin Sci (London). 1999;96(5):513-23.
20. Peckett A, et al. Metabolism. 2011;60(11):1500-10.
21. Abraham S, et al. Obesity (Silver Spring). 2013;21(1):E105-17.
22. Data on file. 2012. NeuroScience, Inc., Osceola, WI 54020.


‡SerinAid® is a registered trademark of Chemi Nutra.

*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.