



AdreCor with Licorice Root

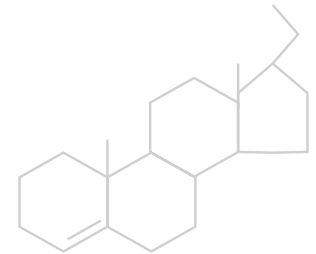
Increases cortisol levels and provides non-glandular ingredients important for adrenal health, energy, wakefulness, and stress management*

Item Number	Available Sizes	Serving Size
2097	90 Capsules	3 Capsules

Key Ingredients

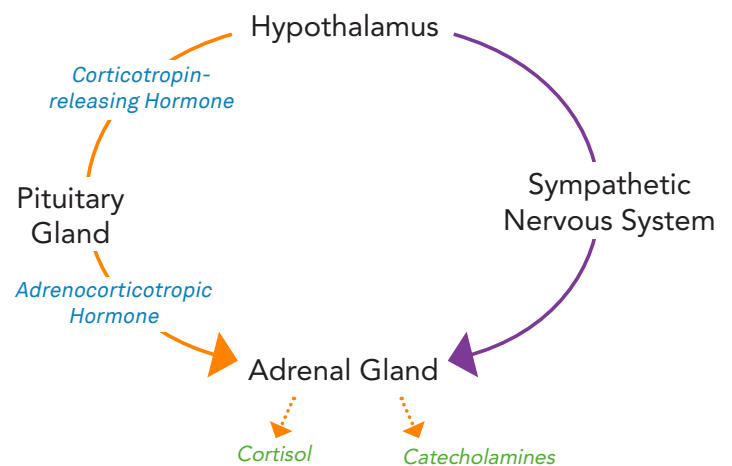
Glycyrrhizic acid (from Licorice root extract)	<ul style="list-style-type: none"> Glycyrrhetic acid (metabolite of glycyrrhizic acid) binds 11β-hydroxysteroid dehydrogenase 2 (11βHSD2) to inhibit the breakdown of cortisol!^{1*}
L-histidine	<ul style="list-style-type: none"> Precursor to histamine In the central nervous system, histamine plays an important role in the release of pituitary hormones and wakefulness²
L-methionine	<ul style="list-style-type: none"> Precursor to S-adenosylmethionine (SAME)³ SAME is directly involved in methylation processes including catecholamine synthesis⁴
L-tyrosine	<ul style="list-style-type: none"> Precursor to catecholamines including dopamine, norepinephrine, and epinephrine
Rhodiola rosea root extract (5% rosavins)	<ul style="list-style-type: none"> Adaptogen that has been shown to reduce stress-induced effects^{5,6*} In a randomized, double-blind, placebo-controlled study, <i>Rhodiola rosea</i> was shown to significantly improve mental fatigue and general well-being under stress^{6*}
Green tea leaf extract (<i>Camellia sinensis</i>) (65% EGCG)	<ul style="list-style-type: none"> Epigallocatechin gallate (EGCG) is a polyphenol in green tea that provides antioxidant protection by its ability to scavenge free radicals and metal ions^{7*} EGCG has been shown to increase resistance to fatigue in vivo^{8*}
Vitamins B and C	<ul style="list-style-type: none"> Active forms of pantothenic acid, niacin, B6, folate, B12, and C are important for the synthesis of adrenal hormones and neurotransmitters^{9,14*}

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 cortisol¹⁵
- Prolonged stress** is associated with dysregulation of the HPA axis, which can affect catecholamine and cortisol levels¹⁶

NeuroAdrenal Response

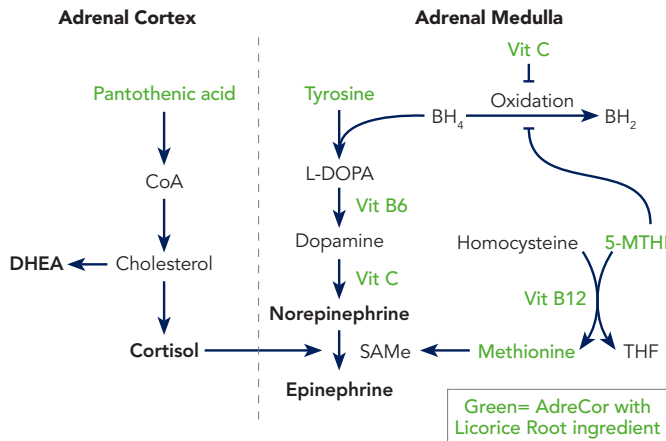


Green = Biomarker Blue = Hormone
 Orange = Hypothalamic-Pituitary-Adrenal (HPA) axis Purple = Sympathomedullary Pathway

*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 ADRECOR WITH LICORICE ROOT

Figure 1. Adrenal Hormones and Neurotransmitters



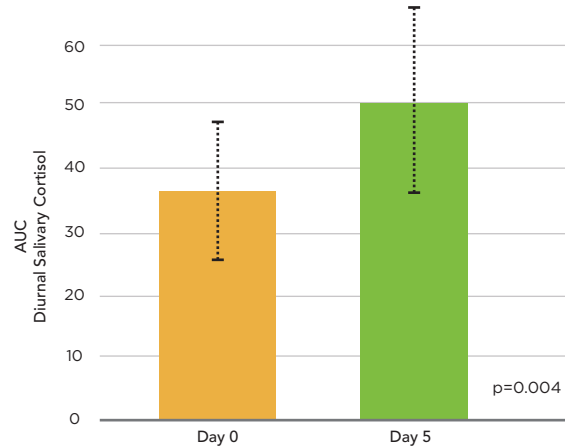
AdreCor with Licorice Root and adrenal health

Contains amino acids and vitamins important for the synthesis of adrenal hormones and neurotransmitters*

- 5-MTHF (from Quatrefolic®) and vitamin B12 are important for methylation processes including the synthesis of catecholamines^{13*}
- Niacin, vitamin C, and 5-MTHF help protect and regenerate tetrahydrobiopterin (BH₄) from oxidation^{10-12*}
- Pantothenic acid is the precursor to coenzyme A (CoA), a coenzyme important for energy production and hormone synthesis^{9*}
- Cortisol induces the conversion of norepinephrine to epinephrine¹⁶

Catecholamines play an important role in mood, energy, memory, attention and cognition¹⁷⁻²⁰

Figure 2. AdreCor with Licorice Root Increases Cortisol Levels^{21*}



Cortisol, HPA axis, and fatigue

Cortisol awakening response (CAR) refers to the sharp increase in cortisol levels observed immediately following awakening²²

- CAR function is thought to be important in regaining arousal after sleep and preparing the body for forthcoming bioenergetic demands²²
- Cortisol curves lacking a robust CAR are indicative of HPA axis dysregulation and have been correlated with feelings of fatigue^{23,24}

AdreCor with Licorice Root increases cortisol levels^{21*}

- Participants (n = 19) were prescreened for low cortisol levels
- AdreCor with Licorice Root (3 capsules, twice daily) was taken for four consecutive days
- Mean total cortisol levels (area under the curve – AUC) were significantly higher on Day 5 compared to Day 0 (p = 0.004)^{21*}



Concerned about mood?

Learn more about TravaCor at
www.neuroscienceinc.com/products/travacor

- van Gelderen C, et al. Hum Exp Toxicol. 2000;19(8):434-9.
- Krystal A, et al. Sleep Med Rev. 2013;17(4):263-72.
- Duncan T, et al. Mol Nutr Food Res. 2013;57(4):628-36.
- Mischoulon D and Fava M. Am J Clin Nutr. 2002;76(5):1158S-61S.
- Chiang H, et al. J Food Drug Anal. 2015;23(3):359-69.
- Spasov A, et al. Phytomedicine. 2000;7(2):85-9.
- Legeay S, et al. Nutrients. 2015;7(7):5443-68.
- Teng Y and Wu D. Pharmacogn Mag. 2017;13(50):326-31.
- Ragaller V, et al. J Anim Physiol Anim Nutr (Berl). 2011;95(1):6-16.
- Vrecko K, et al. Biochim Biophys Acta. 1997;1361(1):59-65.
- May J, et al. Brain Res Bull. 2013;90:35-42.
- Antoniades C, et al. Circulation. 2006;114(11):1193-201.
- Mattson M and Shea T. Trends Neurosci. 2003;26(3):137-46.
- Dakshinamurti K. Ann NY Acad Sci. 1990;585:128-44.
- Lee D, et al. BMB Rep. 2015;48(4):209-16.
- Krizanova O, et al. Stress. 2016;19(4):419-28.
- Blier P. J Psychiatry Neurosci. 2001;26 Suppl:S1-2.
- Verhoeff N, et al. Brain Res. 2003;74(2):425-32.
- Xing B, et al. Brain Res. 2016;1641(Pt B):217-33.
- Clark K and Noudoost B. Front Neural Circuits. 2014;8:33.
- Data on file. 2012. NeuroScience, Inc., Osceola, WI. 54020.
- Elder G, et al. Sleep Med Rev. 2014;18(3):215-24.
- Incollingo Rodriguez A, et al. Psychoneuroendocrinology. 2015;62:301-18.
- Adam E, et al. Proc Natl Acad Sci USA. 2006;103(45):17058-63.

If you have cardiovascular concerns or if you are pregnant or nursing, consult your healthcare provider before use.

‡ Magnafolate is a registered trademark of Lianyungang Jinkang Pharmaceutical Technology Co., Ltd.

*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.