



Quality is our Passion
Passion Flower (*Passiflora incarnata*)

Adrenal Complex

M1050

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Adrenal Complex: Premium Adrenal Support

Since the beginning of recorded history Licorice has been used as a remedy. The first documented traditional use can be traced back to ancient Assyrian, Egyptian, Chinese and Indian cultures.¹ Rehmannia root was first mentioned in the *Divine Husbandman's Classic of the Materia Medica (Shen Nong Ben Cao Jing)*. This Chinese text is believed to have been written at or before the 3rd century – although herbs were being used in China for millennia before this time!^{2*}

Some important endocrine glands

There are many endocrine glands in your body – they secrete hormones, which act as messengers and are carried by the bloodstream. Hormones are sent from one gland and are received and have an effect on another gland or body tissue (hormones have specific targets). Hormones are regulated by feedback loops involving receptor, control center and target. An endocrine gland is able to adjust its output of hormones by responding to chemical changes or by altering the level of another hormone.^{3*}

The adrenal glands sit on top of the kidneys, and are made of two parts: the cortex and the medulla.³ Hans Seyle, the scientist that first introduced the concept of stress (see below), considered the adrenal cortex 'the organ of integration' which participates in the 'physiology of virtually all tissues in the body'.^{4*}

Stress: Rise to the challenge and adapt

The body has developed defense mechanisms to deal with life-threatening dangers. The stress response ('fight-or-flight' reaction) helps your body adapt. The body moves into 'high gear' by providing energy, speed and concentration to fight or to run.^{5*}

A quick explanation: the word *stressor* can be thought of as the *cause*, and *stress* as the *effect or resulting condition*. Examples of stressors include cold, noise, air pollution, strenuous exercise, a job interview, marriage separation to name a few.^{4,5*}

The hypothalamus (the main endocrine control center), pituitary and adrenals together are one important facilitator of the stress response. The hypothalamus sets the process off when you encounter a stressor. Then through a combination of nerve and hormone signals in the pituitary, the adrenal glands release a surge of hormones, including adrenaline (epinephrine) from the adrenal medulla and glucocorticoids (especially cortisol) from the adrenal cortex.^{3-5*}

Epinephrine increases your heart rate and boosts energy supplies. Cortisol (called the primary stress hormone) increases blood glucose, the brain's use of glucose and substances that normally repair tissue. It also slows down functions that are regarded as nonessential at this time, including those from the digestive and reproductive systems and some immune system responses. The stress response also involves regions of the brain that control mood, motivation and fear.^{5*}

Modern life presents many challenges (potential stressors), which the

Supplement Facts		
Serving size:	1 tablet	
Servings per container:	40	
Amount per Serving		%DV
Calories	3	
Calcium	73 mg	7%
Licorice root 7:1 extract from <i>Glycyrrhiza glabra</i> root 1.75 g Containing glycyrrhizin 25 mg	250 mg	†
Rehmannia rhizome 5:1 extract from <i>Rehmannia glutinosa</i> rhizome 750 mg	150 mg	†

† Daily Value (DV) not established.

Other ingredients: Calcium acid phosphate, cellulose, sodium starch glycolate, maltodextrin, magnesium stearate and hypromellose.

Caution: Contraindicated in high blood pressure, edema (water retention), congestive heart failure, low blood potassium, pregnancy and lactation.

Product No M1050
Content 40 Tablets



Associate Professor Kerry Bone
MediHerb Co-Founder and
Director of Research and Development

A Phytotherapist's Passion

"Philosopher and teacher Rudolf Steiner once said that, for every human illness, somewhere in the world there exists a plant which is the cure. I believe that there is a healing potential locked inside plants which is integral with their evolution, just as it is part of human evolution to learn to tap this wonderful gift of Nature."

* These statements have not been evaluated by the Food & Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.

body's natural defenses may struggle to deal with. (They may not be life-threatening dangers but the body still responds with the stress response.) If constantly activated, your body's response to stress may make you more vulnerable to occasional sleeplessness, digestive upset or poor concentration. This is due to the continuing exposure to stress hormones, less reserve energy and a less healthy stress response.^{5,6} Other maladaptive responses to stress include for example, nervous tension, occasional emotional imbalance and changes in the normal menstrual cycle or the body's normal immune function.^{4*}

An important feature of successfully coping with stress is that body systems are not only turned on efficiently by a particular stressor, but they are also turned off again after the stressor has ceased. The extent to which an individual can cope with stressful situations varies, and these differences are a product of genetics, developmental influences, experience, training, social support and current mental and physical health.⁴ Stress management strategies also include a healthy diet, regular exercise and adequate sleep.^{5*}

How Adrenal Complex Keeps You Healthy

Supports healthy adrenal gland function

Licorice is regarded as an adrenal tonic. A tonic is popularly thought of as something that makes you feel better, stronger or healthier. Licorice has been used traditionally by herbalists to support the healthy functioning of the adrenal cortex and the body's natural production of the primary stress hormone, cortisol. The presence of the constituent glycyrrhizin is important for these activities.^{7,8*}

Facilitates the body's normal response to occasional stress

By supporting the adrenal cortex, Licorice helps the body's normal response to occasional stress. Rehmannia is also used traditionally to support normal immune function⁸ and this may also be of benefit during occasional stress. Licorice is recommended traditionally to improve energy reserves as a result of occasional stress or overwork.^{9*}

Strength and safety in dosage

Licorice root contains many important constituents including triterpene saponins (mainly glycyrrhizin) and flavonoids. Both sets of constituents are likely to be responsible for many of the beneficial effects of Licorice root on the body. But glycyrrhizin is also responsible for some of the adverse effects found when Licorice (including candy) is consumed in too high amounts.¹⁰ For this reason it is important to take Adrenal Complex at the dosage recommended by your health care professional. You also need to tell your health care professional if you regularly eat authentic Licorice candy.*

What Makes Adrenal Complex Unique

Adrenal Complex is unique in the professional herbal products industry because:

- The label states exactly how much each tablet contains of the important plant constituents (glycyrrhizin)
- MediHerb tests the quantity of glycyrrhizin in Licorice raw material

Unique Manufacture & Analytical Testing

Quality and safety ensured

- Manufactured in Australia to the high standards of international pharmaceutical Good Manufacturing Practice
- Raw materials and finished product are subjected to tough quality standards

References

¹ Fiore C, Eisenhut M, Ragazzi E et al. *J Ethnopharmacol* 2005; **99**(3): 317-324 ² Bensky D, Clavey S, Stoger E. *Chinese Herbal Medicine: Materia Medica*, 3rd Edn. Eastland Press, Seattle, 2004. ³ Lazaroff M. *The Complete Idiot's Guide to Anatomy & Physiology*. Alpha, Indianapolis, 2004. ⁴ Pacak K, Palkovits M. *Endocr Rev* 2001; **22**(4): 502-548 ⁵ Mayo Clinic Staff. *Stress: Win control over the stress in your life*. 12 September 2008. Available from www.mayoclinic.com/print/stress/SR00001/METHOD=print. Accessed September 2008. ⁶ Wagner H, Norr H, Winterhoff H. *Phytomed* 1994; **1**(1): 63-76 ⁷ British Herbal Medicine Association. *British Herbal Compendium*, Vol 1. BHMA, Bournemouth, 1992. ⁸ Mills SY. *The Essential Book of Herbal Medicine*. Penguin Arkana (Penguin), London, 1991. ⁹ Holmes P. *The Energetics of Western Herbs: Treatment Strategies Integrating Western and Oriental Herbal Medicine*, Vol 1, Revised 3rd Edn. Snow Lotus Press, Boulder, 1997. ¹⁰ Olukoga A, Donaldson D. *J R Soc Health* 2000; **120**(2): 83-89



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Quality is our Passion

MediHerb products are developed by experts and leaders in the field of herbal therapy, using scientific evidence and hundreds of years of traditional knowledge.

Kerry Bone and over 20 health care professionals work within MediHerb while still managing their own clinical practices, plus we consult with an advisory board of health care professionals from around the world.

Our products are made using only the highest quality ingredients which are extensively tested for purity and potency. The MediHerb manufacturing plant operates to a strictly regulated pharmaceutical standard and is regularly audited by the Therapeutic Goods Administration (similar to the FDA), the same body that audits conventional pharmaceutical manufacturing facilities. The comprehensive regulations in Australia mean that you receive a safe and effective product that has been manufactured to pharmaceutical standards.

We know from our experience as health care professionals that the quality of a product you take makes a huge difference to the health outcome you experience. We dedicate ourselves to researching and making the best possible products to deliver health solutions that work.



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