



Nature's Cortisol Formula

Stock #3209-4 (90 capsules)

Chronic stress, combined with inadequate nutrition, insufficient relaxation and lack of sleep, can lead to excess blood cortisol levels. Cortisol is a hormone secreted by the adrenal glands that mediates the body's response to stress. Although cortisol is an essential stress-protection hormone, research has confirmed the close relationship between high cortisol levels and stress-induced obesity. In fact, stress is the most commonly reported trigger of binge-eating. Not surprisingly, recent studies indicate that high cortisol levels are not only positively related to excess abdominal body fat, but also to increased food intake following stress, particularly of sweet and high-fat foods. In addition, researchers have consistently found elevated cortisol levels among individuals with depression. Furthermore, prolonged high levels of cortisol increases the risk of cardiovascular disease, insulin resistance and diabetes, bone loss, muscle wasting and impaired immunity.¹⁻¹⁴

Nature's Cortisol Formula is a dietary supplement providing herbal extracts and nutrients that have been shown to help reduce symptoms of stress, lower elevated cortisol levels, improve insulin function, balance blood sugar levels, and enhance weight-loss efforts without the use of stimulants. Each capsule of Nature's Cortisol Formula contains:

Vitamin C (as calcium ascorbate) - Vitamin C is an important anti-stress antioxidant and vital nutrient for adrenal function. Vitamin C is more highly concentrated in the adrenal cortex than in any other organ, and when the adrenals are under stress, vitamin C levels are depleted. Experimental and clinical evidence suggest that supplemental vitamin C in levels significantly greater than the RDA (Recommended Dietary Allowance) can support adrenal function and decrease high cortisol levels. Incidentally, calcium ascorbate is a non-acidic or "buffered" form of vitamin C that also provides a highly absorbable form of calcium. Growing evidence supports a relationship between increased calcium intake and losses in body weight specific to fat mass. Furthermore, results from clinical trials indicate that calcium may play a substantial contributing role in reducing both the incidence of obesity and prevalence of insulin resistance syndrome.^{12,15-23}

Chromium, a trace mineral, plays an essential role in increasing the body's sensitivity to insulin and is an important element for effective weight-loss. In order to facilitate weight-loss, the body's cells need to become more receptive to the hormone insulin, which is critical for maintaining balanced blood sugar levels and stimulating thermogenesis (fat-burning). Studies show that chromium not only significantly improves insulin function, but also reduces fasting glucose (blood sugar) levels, improves glucose tolerance, and decreases total cholesterol and triglycerides while increasing HDL ("good") cholesterol. Research has shown that dietary chromium intake is suboptimal among most individuals, and these deficiencies are further exacerbated by increased chromium losses resulting from stress and the consumption of certain refined foods, including simple sugars, that enhance chromium depletion.²⁴⁻²⁶

Relora[®] is a proprietary blend of a patented extract from *Magnolia officinalis* bark and a patent-pending extract from *Phellodendron amurense* bark. Relora is formulated to help relieve mild anxiety and stress and reduce stress-related appetite without causing drowsiness. Magnolia bark contains two major bioactive ingredients, honokiol and magnolol, which have been shown to provide antidepressant and anxiolytic (anti-anxiety) effects in animal studies. Magnolol and honokiol have long been used in traditional Chinese medicine for the treatment of anxiety and neurosis—any of various mental or emotional disorders involving symptoms such as insecurity, anxiety, depression and irrational fears. Animal studies have also shown that magnolol can lower cortisol levels. Phellodendron bark is an important source of berberine, which has been shown to reduce blood sugar levels, as well as lower high blood pressure and cholesterol.²⁷⁻³⁵

According to unpublished preliminary human trials, Relora has been shown to improve feelings of stress and reduce stress-related symptoms in over 80% of users; improve relaxation and promote restful sleep in over 70% of users; lower morning salivary cortisol levels by 37% while significantly raising morning salivary DHEA levels in those with mild to moderate stress; and reduce the stress-related intake of high fat/high sugar foods by over 75% among individuals who reported they ate high fat/high sugar foods when under stress.^{12,27,36}

Holy basil, also known as tulsi, is used extensively in Ayurvedic (Indian) medicine in Eastern and Middle Eastern countries. Holy basil has been ascribed numerous medicinal properties, including antidiabetic, hepatoprotective (liver-protecting), cardioprotective (heart-protecting) and adaptogenic actions, many of which have been substantiated by scientific research. For example, animal studies have confirmed that holy basil combats noise-induced stress. Animal research has also shown that holy basil decreases blood levels of cortisol and glucose. Furthermore, atomic absorption spectroscopy has revealed that holy basil contains marginal levels of both chromium and vanadium, trace minerals that play important roles in glucose metabolism.^{12,37-41}

Green tea extract (decaffeinated) - Green tea contains compounds known as polyphenols that function as antioxidants, combat cancer, and inhibit the oxidation of LDL ("bad") cholesterol. Green tea also increases thermogenesis, an important calorie-burning mechanism. Results from a randomized, controlled clinical trial found that green tea extract stimulated thermogenesis and fat oxidation. Additional research has shown that epigallocatechin gallate (EGCG), an abundant polyphenol found in green tea, reduced body weight and body fat by increasing thermogenesis and fat oxidation in rats. These results suggest that green tea components such as EGCG may be responsible for green tea's effects on body weight and body composition and thus, may be useful for treating obesity.⁴²⁻⁴⁶

Banaba leaf - Banaba leaves have been used throughout India, Southeast Asia and the Phillipines as a folk remedy for diabetes and hyperglycemia (abnormally high glucose levels). Researchers have found that banaba leaves contain the active ingredient corosolic acid, an antidiabetic agent that has been shown to exert insulin-like properties in animal studies. Corosolic acid appears to stimulate the uptake of glucose by the cells, thus resulting in a reduction in blood glucose levels. Animal studies using Type II diabetic (NIDDM) mice showed that the group fed a diet containing corosolic acid exhibited almost complete suppression of the increases in plasma glucose levels that were observed in the control group. In addition, serum insulin levels, urinary glucose excretion and plasma total cholesterol levels were also reduced in the corosolic acid group. Preliminary human studies with Type II diabetics have demonstrated an average decrease in blood glucose of up to 32%. In addition, a study of obese Type II diabetic mice showed that corosolic acid also appears to promote weight loss.⁴⁷⁻⁵¹

I-Theanine (Suntheanine®), a naturally occurring non-protein amino acid found in tea leaves, has demonstrated wide-ranging physiological activity, including lowering blood pressure, inducing relaxation and reducing stress. Theanine has been shown to cross the blood-brain barrier, causing significant increases in brain concentrations of the neurotransmitters (chemicals that transmit nerve impulses), serotonin and dopamine. Serotonin is involved in mood, sleep and appetite, while dopamine plays an important role in brain activity and the functioning of the central nervous system. Theanine has also been shown to stimulate the brain's production of alpha waves, which indicates an awake and alert, yet relaxed state. In addition, animal research suggests that theanine may help reduce weight and abdominal fat stores, as well as lower serum triglycerides.⁵²⁻⁵⁷

DHEA, a hormone produced by the adrenal glands, exerts a beneficial effect on the stress response by way of its antagonistic action to that of cortisol. During periods of stress and anxiety, DHEA levels decline, while cortisol levels increase. Such stress-induced hormonal alterations appear to contribute to a variety of psychiatric conditions, such as major depression, as well as chronic disease states, including diabetes and insulin resistance. Fortunately, preclinical and clinical studies suggest that a low cortisol to DHEAS (the metabolized form of DHEA) ratio provides a buffering effect on the stress response, as DHEAS opposes the action of cortisol. A recent placebo-controlled study confirmed that DHEA supplementation decreases plasma cortisol levels in healthy older men and women. In addition, both in-vitro and in-vivo experiments have found that DHEA exerts a stimulatory effect on the immune system, as well as anti-diabetes, anti-atherosclerosis, anti-obesity and anti-osteoporosis actions. Clinical trials also suggest that DHEA supplementation may improve mood and feelings of well-being and decrease fatigue or exhaustion. Furthermore, a randomized, double-blind, placebo-controlled trial with 56 elderly men and women found that, compared to placebo, DHEA supplementation significantly decreased areas of visceral (abdominal) fat and also significantly increased insulin sensitivity.^{12,36,58-67}

Vanadium - Recent studies reveal a promising application for the trace mineral vanadium in the management of diabetes. Vanadium has shown therapeutic potential for its ability to mimic the effects of insulin, enhance insulin sensitivity and lower cholesterol. Its effectiveness in the treatment of diabetes has also been confirmed in clinical trials with both insulin-dependent diabetics (Type 1) and non-insulin-dependent diabetics (Type 2). A study of Type 2 diabetics showed vanadium produced significant improvements in just 6 weeks, decreasing fasting plasma glucose levels just over 20%, as well as reducing plasma total cholesterol nearly 10% and LDL cholesterol by 8.5%.⁶⁸⁻⁷¹

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