

# I N N A T E

RESPONSE FORMULAS<sup>®</sup>

*V i s m e d i c a t r i x n a t u r a e*

## Adrenal Response<sup>®</sup>

100% Whole Food Targeted Response Dietary Supplement

### Formula Rationale

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# Formula Rationale of Adrenal Response®

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An innate goal of every healthy human system is for the body to seek homeostatic biochemical function. Responding to an individual's physical, emotional and mental environment, the autonomic nervous system seeks balance between sympathetic and parasympathetic function. The body activates the hypothalamic-pituitary-adrenal axis (HPA) in a normal, healthy response to stress. The HPA is a complicated control system mediating stress responses in which the production of glucocorticoids (cortisol) suppress autonomic, endocrine, immunological and psychological responses to stress.

When an individual is subjected to a period of acute or chronic stress, characteristic changes in several hormones and parameters associated with the central nervous system and the HPA occur. HPA changes include an increase in cortisol, a reduced sensitivity of the HPA to feedback down-regulation, and a disruption in the circadian rhythm of cortisol secretion. Central nervous system changes include the stress-induced depletion of catecholamine neurotransmitters, such as norepinephrine and dopamine. An acute increase in beta-endorphin levels is also observed under stressful conditions. If the individual's exposure to stress is prolonged and chronic, the HPA is constantly stimulated causing chronically elevated sympathetic function. Constant stimulation will eventually lead to system dysfunction, which includes hypercortisol levels, resulting in loss of the body's inherent adaptive quality.

The use of non-stimulant plant adaptogens is a safe and effective method of modulating an individual's stress response or hormonal perturbations. Plant adaptogens cause the physiology to begin the adaptation process to stress by increasing the body's nonspecific resistance to intrinsic and extrinsic physical, emotional, mental and environmental stress factors. When a stressful situation occurs, consuming adaptogens generates a degree of generalized adaptation (or non-specific resistance) that allows the physiology to respond to the stressful situation in a more effective way. Adrenal Response® was crafted with whole botanicals and supportive whole foods renowned for their ability to target and modulate an innate response of the HPA.

**Indication:** A botanical formula targeted at helping normalize biochemical imbalances, in particular cortisol (a glucocorticoid) levels, related to alterations in adrenal function. The primary symptoms associated with this sub-clinical condition are anxiety, chronic fatigue, sleep disturbances, suppressed immunity, weight gain, insulin resistance and an array of other clinical conditions. A broad range of underlying symptoms may arise because adrenal hormones exert a profound influence on the body's carbohydrate, protein, and lipid metabolism, immune response, thyroid function, cardiovascular health, and overall resistance to stress.

**Suggested Use:** Take 2 tablets, 2-3 times daily. Additional Innate Response Formulas® recommended, Cortisol Response™ (as directed), Magnesium (2-3 tablets daily) and/or Zinc (1-2 tablets daily).

Adrenal Response® is free of gluten, dairy, corn, GMO's, preservatives and/or colorants. Since no preservatives are used, store tightly sealed in cool to moderate temperatures to prevent oxidation.

**Contraindications:** Not recommended during pregnancy or breast-feeding. Not recommended for individuals with high blood pressure.

**Other recommendations:** Avoidance of caffeine and alcohol, establish consistent times for going to and waking from sleep, daily exposure to direct sunlight, light to moderate daily activity and stress management.

**SUPPLEMENT FACTS**

Serving Size 2 Tablets	
Servings per Container 15 or 30	
Calories 1	
Total Fat .....	20 mg
Total Carbohydrate .....	49 mg
Dietary Fiber .....	21 mg
Sugars .....	28 mg
Protein .....	13 mg

**SOURCE; FOODSTATE™ AMOUNT**

Sensoril®*** (Ashwagandha Root) ( <i>Withania somnifera</i> ) .....	200 mg
Rhodiola extract ( <i>Rhodiola rosea</i> ) 10:1 (1% rosavins) .....	200 mg
Astragalus Root ( <i>Astragalus membranaceus</i> ) 4:1 .....	150 mg
American Ginseng Root ( <i>Panax quinquefolius</i> ) 4:1 .....	100 mg
Sacred Basil ( <i>Ocimum sanctum</i> ) 10:1 .....	100 mg
Schizandra Berry ( <i>Schisandra chinensis</i> ) 4:1	100 mg

**ADDITIONAL FOODS & EXTRACTS**

Indian Gooseberry, Amla 5:1 .....	100 mg
Seaweed- <i>Laminaria digitata</i> , and <i>Ascophyllum nodosum</i> .....	45 mg

**OTHER INGREDIENTS**

Rice Bran, Guar Gum, Vegetable Stearic Acid, Silica, Pharmaceutical Glaze.

\*\* Daily value not established.

\*\*\* Sensoril® is protected under US Patents Nos. 6,153,198 and 6,713,092 and is trademark of Natreon, Inc.

**Rationale for Botanicals**

Sensoril® (*Withania somnifera*) root and leaf

When selecting a primary botanical, Sensoril® is a proprietary high-purity extract of *withania somnifera* (ashwagandha root and leaf) that has been designed to exact defined proportions of withanolide glycosides and oligosaccharides, a minimum of polysaccharides and substantially low levels of free withaferin-A and equivalents (withanolide aglycones), which provides optimal adaptogenic and anti-stress activity. The result is an extract designed to ensure optimal functioning to help the body resist the negative effects of stress.

The active constituents of Sensoril® in their patented ratios have been shown to reduce or modulate increased levels of circulating adrenocorticotrophic hormone (ACTH) and the concurrent increase in glucocorticoid levels (cortisol) to normal levels, which may protect the body from the deleterious effects of chronic stress. Sensoril® works naturally to help regulate proper levels of stress-induced hormones and maintain healthy, balanced metabolic function<sup>1</sup>.

**Actions:** Adaptogen, stress-modulator, rejuvenative

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<sup>1</sup> Sensoril® Literature provided by NutraGenesis LLC, Brattleboro, Vermont © 2003.

**Rhodiola extract *Rhodiola rosea* 10:1**

A well-documented adaptogenic herb included in the formula for its action primarily upon the hypothalamus in the brain, which functions to normalize the manner in which the body responds to stress triggers and maintains equilibrium within the HPA. Research also indicates rhodiola is an effective remedy for asthenic conditions (decline in work performance, sleep difficulties, poor appetite, irritability, hypertension, headaches, and fatigue). Mood disorders are also common when adrenal function is impaired. Rhodiola has also been shown to enhance the transport of tryptophan and 5-HTP (serotonin precursors), as well as helping to reduce the degradation of other mood-elevating neurotransmitters in the brain.

**Actions:** Adaptogen, energy-enhancer

**Astragalus root *Astragalus membranaceus* 4:1**

An important adaptogen herb which in studies, have indicated to stimulate pituitary-adrenal cortical activity. Astragalus is also an effective remedy for immuno-compromised individuals, a common condition associated with adrenal dysfunction.

**Actions:** Tonic, adaptogen, antioxidant, immunomodulator

**American ginseng root *Panax quinquefolius* 4:1**

Pharmacologically, ginseng is nonspecific in its effects and is capable of a normalizing action irrespective of the pathological situation; it has been successfully used to normalize the body's stress response by helping to modulate the manufacture and secretion of hormones from the adrenals. American ginseng is also considered to have a calming effect on an over-stimulated nervous system. It may also help to strengthen the adrenal glands themselves in individuals suffering from chronic stress.

Ginseng helps to enhance white blood cell activity and may thus be helpful in supporting a compromised immune system. The adaptogenic properties of this herb may further promote resistance to infection, countering the suppressive effect of stress on immune function.

**Actions:** Adaptogen, tonic, immunomodulator

**Sacred basil *Ocimum sanctum* 10:1**

An adaptogenic herb, one of the primary botanicals used in ayurvedic medicine to modulate a physiological stress response and to increase adaptive energy. Traditional ayurvedic use for anti-stress activity has been verified by numerous animal clinical studies. A variety of studies have also shown sacred basil to support the health of the cardiovascular, immune and digestive systems, acting as an effective remedy to help ease stress-related conditions, including hypertension, mood disorders and peptic ulcers.

**Actions:** Adaptogenic, tonic

**Schizandra berry *Schisandra chinensis* 4:1**

Included for its renowned ability to help restore integrity to the adrenal glands, and to promote a greater sense of energy and stamina. The adaptogenic properties of this herb help to improve the body's response to stress, as well as support immune function.

**Actions:** Adaptogen, tonic, immunomodulator

<sup>2</sup> *Alternative Medicine Review*, Vol. 6, No. 3: 293-302 (2001)

<sup>3</sup> Bhargava KP, Singh N. Anti-stress activity of *oCimum sanctum* Linn. *Indian Journal of Medical Research* 1981; 73:443-451.

**Rationale for Additional Whole Foods and Extracts**

Additional tonic foods rich in a myriad of vital nutrients and phytonutrients were included to support formula utilization and to provide additional whole food nourishment.

**Indian gooseberry, Amla fruit 5:1**

Included in the formula for its nourishing properties and action as a biological response modifier. Considered a rejuvenative in ayurvedic medicine, it has traditionally been used to promote health and longevity.

**Actions:** Adaptogen, tonic, nutritive

**Sea vegetables *Laminara digitata* and *Ascophyllum nodosum***

Chosen for their superior nourishing properties, *Laminara digitata* and *Ascophyllum nodosum*, both commonly referred to as kelp, deliver abundant levels of vitamins, minerals, micro and macro elements and various phytonutrients. *Laminara* has been used as a medicinal food to help support and balance the endocrine, lymphatic, reproductive and cardiovascular systems. It is also considered to target and promote the health of the adrenals, pituitary and thyroid glands. *Ascophyllum* is particularly rich in trace minerals, potassium and iodine nutrients that support the health of the endocrine system.

**Actions:** Nutritive tonic, adaptogenic, antioxidant, thyroid and immune stimulant

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