

Stress Support

In today's fast-paced world, most of us are constantly faced with mounting professional, financial and family pressures.

Stress is inevitable!

To keep up, many people exist on unhealthy fast-food diets, live in polluted environments and don't get enough rest. A bad joke in the corporate world says, "If you aren't stressed, you must not be working hard enough". Studies show that virtually every major disease can be linked to the effects of stress. Some of its early symptoms include headache, nervousness, irritability, upset stomach, eating disorders and depression.

We can not totally eliminate stress, but we can increase our resistance to it. Preventative maintenance, such as a healthy diet, regular exercise, proper rest and stress management can go a long way in helping us deal with stress. The body's need for nutrients increases during stress. Replenishing the vital nutrients that are depleted as a result of stress is critical. It is for this purpose that **Whole-istic Solutions** created **Stress Support**.

Stress Support is a special blend of ingredients designed to promote well-being and assist in mood enhancement and stress relief. In addition to select vitamins, minerals, amino acids and botanicals, specific enzymes are added to facilitate the breakdown of the botanical cell walls and release the active ingredients for use by the body.



Supplement Facts

Serving Size: 1 Capsule

Vitamin B6 (as pyridoxal-5-phosphate) Folate (folic acid) 40 Vitamin B12 Calcium (as calcium lactate penta-hydrate) 5 Magnesium (as magnesium amino acid chelate)	15 mg 10 mg 0 mcg 6 mcg 5.4 mg 1 mg 0 mcg	% DV 25% 500% 100% 100% <2% <2% 42%
Vitamin B6 (as pyridoxal-5-phosphate) Folate (folic acid) 40 Vitamin B12 Calcium (as calcium lactate penta-hydrate) 5 Magnesium (as magnesium amino acid chelate) Chromium (as chromium amino acid chelate) 5 Whole-istic Solutions Proprietary Amino Acid Blend 10 Gamma amino butyric acid, L-tyrosine, DL-methionine, Glycine, L-lysine, L-arginine, L-glutamic acid, L-glutamine, Taurine, L-cystei DL-phenylalanine, L-alanine, L-leucine,	10 mg 0 mcg 6 mcg 5.4 mg 1 mg 0 mcg	500% 100% 100% <2%
Folate (folic acid) 40 Vitamin B12 Calcium (as calcium lactate penta-hydrate) 5 Magnesium (as magnesium amino acid chelate) Chromium (as chromium amino acid chelate) 5 Whole-istic Solutions Proprietary Amino Acid Blend 11 Gamma amino butyric acid, L-tyrosine, DL-methionine, Glycine, L-lysine, L-arginine, L-glutamic acid, L-glutamine, Taurine, L-cystei DL-phenylalanine, L-alanine, L-leucine,	0 mcg 6 mcg 5.4 mg 1 mg 0 mcg	100% 100% <2%
Vitamin B12 Calcium (as calcium lactate penta-hydrate) Magnesium (as magnesium amino acid chelate) Chromium (as chromium amino acid chelate) 5 Whole-istic Solutions Proprietary Amino Acid Blend 11 Gamma amino butyric acid, L-tyrosine, DL-methionine, Glycine, L-lysine, L-arginine, L-glutamic acid, L-glutamine, Taurine, L-cystei DL-phenylalanine, L-alanine, L-leucine,	6 mcg 5.4 mg 1 mg 0 mcg	100% <2%
Calcium (as calcium lactate penta-hydrate) Magnesium (as magnesium amino acid chelate) Chromium (as chromium amino acid chelate) 5 Whole-istic Solutions Proprietary Amino Acid Blend 10 Gamma amino butyric acid, L-tyrosine, DL-methionine, Glycine, L-lysine, L-arginine, L-glutamic acid, L-glutamine, Taurine, L-cystei DL-phenylalanine, L-alanine, L-leucine,	5.4 mg 1 mg 0 mcg	<2%
 Magnesium (as magnesium amino acid chelate) Chromium (as chromium amino acid chelate) Mhole-istic Solutions Proprietary Amino Acid Blend 11 Gamma amino butyric acid, L-tyrosine, DL-methionine, Glycine, L-lysine, L-arginine, L-glutamic acid, L-glutamine, Taurine, L-cystei DL-phenylalanine, L-alanine, L-leucine, 	1 mg 0 mcg	<2%
 Chromium (as chromium amino acid chelate) 5 Whole-istic Solutions Proprietary Amino Acid Blend 10 Gamma amino butyric acid, L-tyrosine, DL-methionine, Glycine, L-lysine, L-arginine, L-glutamic acid, L-glutamine, Taurine, L-cystei DL-phenylalanine, L-alanine, L-leucine, 	0 mcg	
 Whole-istic Solutions Proprietary Amino Acid Blend 10 Gamma amino butyric acid, L-tyrosine, DL-methionine, Glycine, L-lysine, L-arginine, L-glutamic acid, L-glutamine, Taurine, L-cystei DL-phenylalanine, L-alanine, L-leucine, 		42%
Gamma amino butyric acid, L-tyrosine, DL-methionine, Glycine, L-lysine, L-arginine, L-glutamic acid, L-glutamine, Taurine, L-cystei DL-phenylalanine, L-alanine, L-leucine,	63 mg	•
L-ornithine, L-glutathione	ne,	
Whole-istic Solutions Proprietary Enzyme Blend Amylase, Protease 4.5, Lipase, Cellulase	6 mg	٠
Adrenal Suprarenal Substance	3 mg	*
Daily Value not established		

Other Ingredients: Gelatin, rice bran, and water.





Vitamins

<u>Vitamin C (from Acerola)</u> is used in this formula for general supplementation and for immune support.

Vitamin C also enhances the absorption of the other nutrients in the formula. During stressful conditions, vitamin C is rapidly depleted from the body, resulting in greater fatigability and impaired work capacity. This vitamin is intricately involved in the hormonal metabolism of the adrenal cortex and its supplementation can relieve stress. In addition, vitamin C plays a crucial role in iron metabolism.

Acerola also contains mineral salts which have been shown to aid in the remineralization of tired and stressed skin, while its mucilage and proteins have skin hydrating properties and promote capillary conditioning.

Blackstrap molasses contains calcium, iron and potassium, and is an excellent source of B vitamins. It is also rich in copper, magnesium, selenium, phosphorus, pantothenic acid, inositol, vitamin K and vitamin E. It gives the body energy.

<u>The **B Vitamins** (from Blackstrap Molasses)</u>: <u>thiamin</u>, <u>riboflavin</u>, <u>niacin</u>, <u>pantothenic acid</u>, <u>pyridoxine</u>, and <u>B12</u> are important in energy metabolism and therefore play an important role in the body's ability to fight disease and combat the aging process. The B vitamins work synergistically with each other. Usually a deficiency in one will lead to a deficiency of others. Therefore, it is important to supplement the entire B-Complex from a whole-food source.

Thiamin (B₁) (from Blackstrap Molasses) is an essential part of the cellular metabolic process. It affects energy, growth disorders and learning capacity, and is needed for normal muscle tone on the intestines, stomach and heart. **<u>Riboflavin (B2)</u>** (from Blackstrap Molasses) is involved in energy metabolism via oxygen transport enzymes and lipid metabolism; deficiencies can lead to fatigue and lack of appetite.

Niacin (B₃) (from Blackstrap Molasses) aids in the functioning of the nervous system, and is effective in the treatment of schizophrenia and other mental illnesses. Niacin deficiencies often appear in the nervous system as apprehension, irritability and depression, all of which are central to emotional stress. Niacin is commonly used in conjunction with other medications in the treatment of anxiety, nervousness and depression.

Pantothenic acid (B₅) (from Blackstrap Molasses) is known as the "anti-stress" vitamin, as it plays a key role in the production of the adrenal hormones and formation of antibodies. It may be helpful in treating depression and anxiety. Studies show that pantothenic acid may help to delay the onset of fatigue and increase the body's ability to withstand physical stress. Synergistic effects with other B vitamins have been observed in relation to the beneficial effects in stressful conditions.

Pyridoxine HCI (B₆) (from Blackstrap Molasses) is intricately involved in the nervous system, as it is essential for the production of serotonin. Serotonin is a neurotransmitter that exhibits a calming effect upon the central nervous system and can be of benefit in stressful conditions.

Folate (folic acid or folacin) is a B complex vitamin that is the nutritionally essential precursor of a large family of compounds collectively referred to as folates. A deficiency can result in megaloblastic anemia and a compromised immune system caused by lymphoid atrophy.





Cyanocobalamin or Vitamin (B12) is a coenzyme in red blood cell synthesis, protein, lipid, and nucleic acid synthesis and nerve cell maintenance. B vitamins, help in the maintenance of healthy nerves, skin, eyes, hair, liver, mouth, and gastrointestinal muscle tone, Vitamin B12 is needed for the relief of stress, anxiety and depression. Its major importance is due to its anti-anemic action.

Minerals

<u>Calcium</u> has many important functions, one of which is to aid in the body's utilization of iron. It provides energy and participates in the protein structuring of RNA and DNA, and in addition, it may lower blood pressure. When taken at night, it also promotes a sound sleep.

Magnesium helps prevent depression, dizziness, muscle weakness, twitching, heart disease, and high blood pressure. This essential mineral protects the arterial lining from stress caused by sudden blood pressure changes.

<u>Chromium</u> aids in the body's response to insulin. It appears to work by increasing the efficiency of insulin and by improving the function of the brain's glucoreceptors. (Glucoreceptors assess the availability of blood glucose and can trigger hunger, depression, and stress when levels of glucose drop).

Amino Acids

Amino acids are the chemical units that make up proteins. In order for a protein to be complete, it must contain all of its particular amino acids. Because each type of protein is composed of different amino acids, each being tailored for a specific need, they are not interchangeable. The central nervous system cannot function without amino acids, which act as neurotransmitters, or as precursors for neurotransmitters. They are essential for the brain to receive and send messages. If any of the amino acids are missing, almost anything can go wrong with the transmission of the message. With an imbalanced diet, physical disorders will arise due to inadequate amounts of amino acids. Amino acids also enable vitamins and minerals to perform their jobs properly. Each amino acid has specific functions. Some of these functions as they relate to stress, are outlined below.

Gamma-aminobutyric acid (GABA) functions as a neurotransmitter in the central nervous system by decreasing neuron activity, **having a tranquilizing effect**. It inhibits the cells from overfiring, and can be taken to calm the body. Used in conjunction with the B-vitamins, B_3 and inositol, GABA prevents anxiety and stressrelated messages from reaching the motor centers of the brain by filling their receptor sites.

<u>L-tyrosine</u> is an amino acid synthesized in the body from <u>L-phenylalanine</u> and is important in the treatment of **anxiety**, **depression**, **and headaches**.

Tyrosine is a precursor for the neurotransmitters that transmit the nerve impulses essential for preventing depression. It acts as a mood elevator and a deficiency of tyrosine can lead to depression and mood disorders.

L-methionine is an essential amino acid that the body uses to derive the brain food. Choline is necessary for the production of acetylcholine, an important neurotransmitter. Acetylcholine must be present in the body for proper function of the nervous system, including mood, behavior, orientation, personality traits, and judgment. Low levels of this neurotransmitter are associated with the type of memory loss characteristic of Alzheimer's disease and Huntington's disease. Choline is sometimes





beneficial in treating bipolar or manic depression.

<u>Glycine</u> is necessary for proper central nervous system functioning and has been used in the treatment of bipolar depression. In proper amounts, it provides energy to the body.

<u>L-lysine</u> is an essential amino acid that is a building block for all protein. A deficiency of L-lysine can result in irritability, lack of energy and ability to concentrate.

L-arginine promotes the production of Human Growth Hormone (HGH) and other hormones, strengthens the immune system, improves lean muscle mass and reduces fat, regulates several vital metabolic processes, supports brain function and enhances sexuality.

L-glutamic acid or glutamate increases the firing of neurons in the nervous system and can help correct personality disorders. Besides glucose, glutamic acid is the only compound used for brain fuel, which aids with the regulation of brain cell activity.

L-glutamine is essential for proper cerebral function. It is also very important in alcoholism, sugar cravings, mental ability, impotence, fatigue, epilepsy, senility, schizophrenia and mental retardation.

<u>**Taurine**</u> is an essential amino acid. A deficiency of taurine can lead to epilepsy, anxiety, hyperactivity and poor brain function.

L-cysteine is an amino acid that helps detoxify harmful toxins, thereby protecting and preserving cells. As a good free radical destroyer, I-cysteine protects the liver and brain from cigarette smoke and alcohol.

DL-phenylalanine is a building block of all amino acids. It increases mental alertness. Phenylalanine works in the central nervous system and helps to elevate mood, overcome depression, and improve memory and learning.

<u>L-alanine</u> aids in the metabolism of glucose which provides energy.

<u>L-valine</u> is used with leucine and isoleucine to improve muscle metabolism, tissue repair and nitrogen balance in the body.

<u>L-carnitine</u> is a non-essential amino acid that is synthesized in the body from <u>lysine</u> and <u>methionine</u>. It has been shown to increase oxygen uptake and stress tolerance for heart patients during exercise

<u>L-isoleucine</u> is needed for hemoglobin formation and it also stabilizes and regulates blood sugar and energy levels.

L-ornithine is an important amino acid that helps to release a growth hormone that metabolizes excess body fat when combined with L-arginine and L-carnitine.

L-glutathione is a very powerful antioxidant, which protects against damage from cigarette smoke and alcohol. It is also a detoxifier of metals and drugs, aiding in the treatment of liver and blood disorders.

Trimethylglycine and Dimethylglycine (betaine) Trimethylglycine (TMG) is an important substance essential in the regeneration of methionine from homocysteine. It functions to efficiently donate a methyl group to the homocysteine, resulting in the regeneration of methionine and the formation of **dimethylglycine (DMG)**, another important metabolic component. Betaine supplementation has been shown to reduce





homocysteine levels while resulting in modest increases of plasma serine and cysteine levels.

5-Hydryxytryptophan (5-HTP)

5-HTP is naturally derived from the seeds of the Griffonia simplicifolia, a West African medicinal plant. The body manufactures 5-HTP from the amino acid, L-tryptophan. 5-HTP crosses the blood-brain barrier as readily as L-tryptophan as there is sufficient vitamin B₆. L-tryptophan alleviates stress, is good for the heart, and enhances the release of growth hormones necessary for the production of vitamin B₆. Serotonin is an important substance for normal nerve and brain function, as it appears to play a significant role in sleep and emotional moods. Low serotonin levels can cause many health problems, such as depression, anxiety, fibromyalgia, migraine headaches and insomnia. Therefore, supplementation with 5-HTP has shown, through research, to be effective in treating these disorders.

Adrenal Suprarenal Substance

Adrenal suprarenal substance is a hormonesubstance that is secreted by the adrenal gland, which can **increase energy** levels in the body as well as **aid with resistance to stress**.

Enzymes

The **enzymes**, (amylase, protease, lipase, and cellulase) are added to this product to aid in the breakdown and delivery of nutrients from the other ingredients, as well as to promote the general health of the body.

Supplemental enzymes can improve the level of digestion and help assure that the maximum level of nutrient absorption is attained.





References

Balch JF and Balch PA. **Prescription for Nutritional Healing.** [New York: Avery Publishing Group Inc. 1990]. pp 5-31. (Vitamins, Minerals, Amino Acids).

"Blackstrap Molasses." The Supplement Library. Internet. 2001.

Bradford RW and Allen HW. "Taurine in Health and Disease." (Overview and Clinical Observations.) pp 1-22 1992.

Clouatre D. "5-HTP and the link between Mood & Food." *Let's Live* 56-59 1997. Cowley G and Underwood A. "A little help from Serotonin." *Newsweek* pp 78-81. Dec 29 1997/Jan 5 1998.

Dunne LJ. Nutrition Almanac. [New York: McGraw-Hill Publishing Co. 1990]. pp 64-87. Fernstrom JD. "Dietary precursors and brain neurotransmitter formation, *Phenylalanine and Tyrosine dosing and precautions.*" Annul Rev Med 32:413-425 1981.

Evans GW and Pouchnik DJ. "Composition and biological activity of chromium-pyridine carbosylate complexes". *J Inorganic Biochem* 49:177-187 1993.

Huether SE and McCance KL. **Understanding Pathophysiology**. [St. Louis: Mosby-Year Book Inc. 1996]. pp 519-521. (Niacinamide, Pantothenic acid).

Janson M. "Taurine and Carnitine treat more than heart troubles." *Nutrition Science News* 2(6) 1997.

Kutsky RJ PhD. Handbook of Vitamins, Minerals and Hormones, 2nd Ed. [New York: Van Nostrand Reinhold Company, 1981].

Leung AY and Foster S. Encyclopedia of Common Natural Ingredients used in Food, Drugs, and Cosmetics. [Toronto: John Wiley & Sons Inc. 1996]. pp 6-7. (Acerola).

Murray M and Pizzorno J. Encyclopedia of Natural Medicine. [Rocklin, CA: Prima Publishing, 1991]. pp 522-523.

Pizzorno JE and Murray MT. **Textbook of Natural Medicine**. [Edinburgh, London, New York, Philadelphia, Sydney, Toronto: Churchill Livingstone, 1999]. pp 143-144; 483. (Folic acid). U.S. Pharmacopeial Convention. **The USP Guide to Vitamins & Minerals**. [New York, NY: The Hearst Corporation, 1996]. pp 153-156. (Thiamine). pp 97-99. (Pantothenic acid). Whitney EN, Cataldo CB and Rolfes SR.

