

SLIMMER-SYSTEM is a unique combination of effective nutrients for weight control that work in synergy to help control appetite, burn fat and increase metabolism, muscle mass and energy.

This product contains catechins from green tea, thermogenic agents, lipotropic agents, diuretics and the recommended daily allowance (RDA) of several vitamins and minerals. It provides nutrients to help with weight loss effectively and safely, nourishing the body and protecting it from diseases such as obesity. It can be used as part of a healthy lifestyle and weight-management strategy. This formula contains 300 mg of pure EGCG for protection against diseases affecting the breasts.

SLIMMER-SYSTEM is effective when taken along with physical activity and a healthy diet.

Ingredients: Malabar tamarind fruit (*Garcinia cambogia - G. gummi-gutta*), kola nut extract (*Cola acuminata*), green tea leaf extract (*Camellia sinensis*), root extract from Indian coleus or *Coleus forskohlii* (*Plectranthus barbatus*), Gimnema leaf extract (*Gymnema sylvestris*), inositol, spirulina (*Spirulina platensis*), cayenne fruit, choline bitartrate, ginger rhizome (*Zingiber officinale*), potassium citrate (25 mg potassium), L-ascorbic acid (vit. C), D-*alpha*-tocopheryl acid succinate (vit. E), anticaking agent: magnesium salts of fatty acids, D-biotin, betaine hydrochloride, nicotinamide (vit. B₃), L-selenomethionine, calcium-L-methylfolate, pyridoxine hydrochloride (vit. B₆), chromium picolinate, riboflavin (vit. B₂), potassium iodide, methylcobalamin (vit. B₁₂), vegetable capsule (glacing agent: hydroxypropylmethylcellulose; purified water).

Nutritional information:	6 capsules (4 368 mg)
Malabar tamarind (Garcinia cambogia), 50% hydroxycitric acid	1 500 mg
Kola nut (<i>cola acuminata</i>), 10% caffeine	510 mg
Green tea (camellia sinensis), 6% caffeine	400 mg
EGCG (pure) (50 mg/capsule)	300 mg
Coleus forskohlii, 10% forskolin	300 mg
Gymnema sylvestris, 25% gymnemic acid	150 mg
Inositol (myo-inositol)	100 mg
Spirulina (Spirulina platensis)	100 mg
Cayenne (Capsicum annuum)	100 mg
Choline (choline bitartrate)	100 mg
Ginger (Zingiber officinale)	100 mg
Betaine (betaine hydrochloride)	25 mg
Riboflavin (vit. B ₂)	1,7 mg (121%*)
Niacin (vit. B ₃) (from nicotinamide)	20 mg (125%*)
Vitamin B ₆ (from 2 mg pyridoxine hydrochloride)	1,65 mg (118%*)
Folate (calcium-L-methylfolate)	400 μg (200%*)
Vitamin B ₁₂ (methylcobalamin)	6 μg (240%*)
Vitamin C (L-ascorbic acid)	60 mg (75%*)
Vitamin E (from D-alpha-tocopheryl acid succinate) [30 IU]	20,1 mg AT (168%*)
Biotin (D-biotin)	300 μg (600%*)
lodine (from potassium iodide)	150 μg (100%*)
Selenium (L-selenomethionine)	50 μg (91%*)
Chromium (from chromium picolinate)	235 μg (588%*)
*NRV: Nutrient Reference Value in %	

Size and format: 60 vegetable capsules

Recommended daily dose:

2 capsules three times daily with food. Do not exceed the stated recommended daily dose (6 caps.). Do not consume a daily amount of 800 mg of EGCG or more.

Indications and uses:

Different studies have shown that the ingredients in SLIMMER-SYSTEM can be helpful for obesity, hepatic insufficiency and fatty liver. It can be used as part of a lifestyle and healthy weight control strategy.

Cautions:

Should not be used by pregnant or lactating women, children below 18 years old, if you are already using other products containing green tea, or on empty stomach. Consult a health-care practitioner prior to use if you are treated with medication, especially anticoagulants or sedatives, or if you have a liver disorder or develop symptoms of liver trouble (such as abdominal pain, dark urine, or jaundice), diabetes, intestinal disorder, or symptoms such as abdominal pain, nausea, vomiting, or fever, or if you have a cardiovascular disease, iron deficiency, stomach ulcers or inflammation.





MALABAR TAMARIND (*Garcinia cambogia*): This is a native plant to Southeast Asia, whose fruit has been used for centuries as a food preservative, aromatic agent and carminative, and is now popularly used as an ingredient in dietetic weight loss supplements. It is one of the best nutrients for metabolism and body fat regulation. It functions by inhibiting the synthesis of fat and cholesterol, controlling appetite and reducing cravings for sweets, thereby inhibiting the formation and accumulation of fat and suppressing appetite^(1,2). Hydroxycitric acid, the most valuable component of the plant, increases the ability of the liver and muscles to store glycogen, helping reduce fat production and keeping the brain from sending hunger signals, therefore eliminating appetite. This achieves three things: more calories are burned as energy, fewer calories are converted into stored fat and there is less of a feeling of hunger⁽¹⁾. Studies have shown that hydroxycitric acid can suppress lipogenesis and the synthesis of fatty acids (from 40% to 80%, 8 to 12 hours after eating) and promote glycogenolysis and gluconeogenesis⁽²⁾. As an added benefit, this acid can also prevent heart disease, lowering triglycerides⁽⁴⁾.

When this is combined with a thermogenic formula (substances that increase fat burning, for example, red pepper, green tea, ginger and chrome), an even greater effect can be reached⁽³⁾.

KOLA NUT (Cola acuminata): This is a natural source of caffeine that stimulates the body and mind, combating fatigue and reducing hunger⁽⁵⁾.

<u>GREEN TEA</u>: This compound has been shown to have a broad range of physiological and pharmacological effects. Catechins are responsible for its main activity, especially epigallocatechin gallate (EGCG). Studies prove that EGCG increases metabolism and helps burn fat. In addition to having antioxidant properties and capturing free radicals, it has antibacterial and antiviral activity⁽⁶⁾. It also presents hepatoprotective activity, stimulating detoxification mechanisms.

The inhibition by flavonoids of different biochemical processes related with carcinogenesis has been proven, especially cell proliferation and the induction of neoplastic and preneoplastic cell apoptosis, as well as the inhibition of tumour invasion and angiogenesis, which drastically reduces the first stages of breast cancer⁽⁷⁾. It also provides vitamins B, C, E and fluoride.

<u>COLEUS FORSKOHLII</u>: This important plant is indigenous to India and traditionally used to cure diverse disorders as it is the only source of forskolin. It initiates the release of stored fat in the bloodstream to be used as energy. It promotes lean body mass and inhibits fat synthesis, increasing adenylate cyclase (enzyme responsible for converting ATP into cAMP) in order to initiate lipolysis^(8,9). Different studies affirm that *C. forskohlii* reduces body weight, food intake and fat accumulation, and is useful for the treatment of obesity⁽⁸⁾.

<u>GYMNEMA SYLVESTRIS</u>: This woody plant is known as the "sugar destroyer" and possesses many therapeutic applications. It helps reduce the desire for sweets, body weight, body fat percentage and fatty tissue, thus decreasing abdominal, waist and hip circumference. It also benefits insulin production and improves blood sugar control⁽¹⁰⁾.

<u>INOSITOL</u>: This is a water soluble vitamin, considered a member of the vitamin B group. It maintains the health of cell membranes and has a lipotropic effect, helping mobilize fats outside of the liver, providing a detoxifying effect. It also lowers LDL cholesterol⁽¹⁶⁾.

<u>SPIRULINA PLATENSIS</u>: This blue-green microalgae is known for its high nutritional value and is considered one of the most complete natural sources of protein, vitamins, minerals and other nutrients. *Spirulina* has been attributed benefits for some diseases presenting associated neuropathic disorder, such as diabetes, some types of tumours and anaemia. The high content of polyunsaturated fatty acids in *Spirulina* and their hypocholesterolemic effect is undoubtedly an added benefit for preserving health. It also binds to heavy metals, improving the renal function of eliminating toxic substances⁽¹⁴⁾.

<u>CAYENNE and GINGER</u>: These have thermogenic properties that stimulate weight loss by increasing metabolism, and are especially effective when combined with other nutrients for weight loss^(11,12). They also control hunger and appetite, and significantly reduce glucose, cholesterol and triglycerides⁽¹¹⁾.

<u>CHOLINE</u>: This component comes from phosphatidylcholine degradation and is considered a member of the vitamin B group. It plays an important role in the breakdown of fat and its conversion into energy, and in protecting the liver from excess fat, allowing it to carry out important functions more effectively. It's very helpful for the detachment of excess fat and other toxic elements, favouring lipid metabolism⁽¹⁵⁾.

<u>BETAINE HCI:</u> This is a non-essential nutrient and a source of hydrochloric acid, a naturally occurring chemical in the stomach that breaks down fat and protein. One of the benefits of betaine is its positive effect on liver health. Liver cells produce betaine naturally, so betaine supplements help maintain hepatic function. It can also help prevent the formation of fatty deposits in the liver as a consequence of alcohol abuse, diabetes and obesity^{(13).}





<u>RIBOFLAVIN (Vit.B2)</u>: This is a water soluble vitamin that forms part of a group of enzymes that participate in the release and use of energy from carbohydrates, fat and protein⁽²⁵⁾.

<u>NIACIN (Vit.B3)</u>: This water soluble vitamin is related to the essential metabolic processes for cell energy. Due to its function in fat, protein and carbohydrate metabolism, niacin is recommended for digestive system improvement^(28,29).

<u>VITAMIN B6</u>: This water soluble vitamin is also known as pyridoxine. It is recommended in diets for weight loss since it uses accumulated fat for energy release and increases muscle performance in athletes^(26,27).

<u>VITAMIN B12</u>: This vital, water soluble vitamin is responsible for DNA construction and the production of red blood cells. It's an important source of the nutrients necessary for healthy bodily function. It provides a great amount of energy and increases metabolism⁽²⁶⁾.

<u>VITAMIN C</u>: This water soluble vitamin is necessary for the production of the molecules used in the oxidation, or metabolism of fat tissue. A deficit of vitamin C can provoke an accumulation of fat, especially abdominal fat, since the body is unable to use stored fat for energy⁽²⁷⁾.

<u>VITAMIN E</u>: Known as tocopherol, this liposoluble, or fat soluble vitamin is essential to health since it is an antioxidant that helps protect fatty acids. It also prevents the formation of toxic molecules as a result of metabolism⁽²¹⁾.

BIOTIN: This vitamin helps metabolize fat and carbohydrates consumed, helping with weight loss. It turns food into energy^(19,20).

<u>FOLATE</u>: This is a water soluble vitamin of the B vitamin complex. Folic acid maintains stable levels of insulin, vitamin B12 and vitamin C, and is essential for efficient fat metabolism. It can also protect against the harmful effects of toxins like bisphenol A (BPA) and other similar oestrogenic chemicals that have been associated with several types of cancer, especially breast and prostate⁽¹⁹⁾.

<u>IODINE</u>: Iodine stimulates the thyroid gland, increasing the body's metabolic activity⁽¹⁷⁾.

<u>SELENIUM</u>: This oligoelement is necessary for regulating thyroid function. A healthy thyroid gland helps manage weight by controlling the release of hormones that affect how fat, protein and carbohydrates are used in the body⁽²²⁾. It also acts as an antioxidant for the control of free radicals, preventing heart disease and cancer.

<u>CHROMIUM</u>: Chromium has been shown to reduce body fat and increase lean muscle mass by improving insulin sensitivity, since insulin can lead to obesity. Chrome is a necessary oligoelement for adequate insulin activity in the control of blood sugar. It also burns fat and lowers cholesterol and triglycerides⁽²³⁾.

References:

1) Rasha, H. M., Salha, A., Thanai, A., & Zahar, A. (2015). The Biological Importance Of Garcinia Cambogia: A review. *Journal of Nutrition & Food Sciences*, (S15), 1. 2) Krishnamoorthy, V., Nagappan, P., Sereen, A. K., & Rajendran, R. (2014). Preliminary phytochemical screening of fruit rind of Garcinia cambogia and leaves of Bauhinia variegate-A comparative study. *Int. J. Curr. Microbiol. App. Sci*, *3*(5), 479-486.

5) Burdock, G. A., Carabin, I. G., & Crincoli, C. M. (2009). Safety assessment of kola nut extract as a food ingredient. *Food and chemical toxicology*, *47*(8), 1725-1732. 6) Stagg, G. V., & Millin, D. J. (1975). The nutritional and therapeutic value of tea—a review. *Journal of the Science of Food and Agriculture*, *26*(10), 1439-1459. 7) López Mt. (2002). El té verde. *Fitoterapia 5*(21).

8) Kavitha, C., Rajamani, K., & Vadivel, E. (2010). Coleus forskohlii A comprehensive review on morphology, phytochemistry and pharmacological aspects. *Journal of Medicinal Plants Research*, 4(4), 278-285.

9) Lakshmanan, G. A., Manikandan, S., & Panneerselvam, R. (2013). Plectranthus forskohlii (Wild) Briq. (Syn: Coleus forskohlii)–A Compendium on its Botany and Medicinal uses. Int. J. Res. Plant Sci, 3, 72-80.

- 12) Ahuja, K. D. K., Robertson, I. K., Geraghty, D. P., & Ball, M. J. (2007). The effect of 4-week chilli supplementation on metabolic and arterial function in humans. *European journal of clinical nutrition*, 61(3), 326-333.
- 13) Murray, M. J., & Stein, N. (1968). A gastric factor promoting iron absorption. *The Lancet*, 291(7543), 614-616.

14) Sánchez, N., Bu, M., León, N., & Pérez-Saad, H. (2002). Fundamentos de una posible acción beneficiosa de la Spirulina platensis en las neuropatías periféricas. *Revista Cubana de Plantas Medicinales*, 7(3), 0-0. Online: http://scielo.sld.cu/scielo.php?pid=S1028-4796200200030008&script=sci_arttext&tlng=pt 15) Leermakers, E. T., Moreira, E. M., Kiefte-de Jong, J. C., Darweesh, S. K., Visser, T., Voortman, T., ... & Felix, J. F. (2015). Effects of choline on health across the life course: a systematic review. *Nutrition reviews*, nuv010.

³⁾ Heymsfield, S. B., Allison, D. B., Vasselli, J. R., Pietrobelli, A., Greenfield, D., & Nunez, C. (1998). Garcinia cambogia (hydroxycitric acid) as a potential antiobesity agent: a randomized controlled trial. Jama, 280(18), 1596-1600.

⁴⁾ Márquez, F., Babio, N., Bulló, M., & Salas-Salvadó, J. (2012). Evaluation of the safety and efficacy of hydroxycitric acid or Garcinia cambogia extracts in humans. *Critical reviews in food science and nutrition*, 52(7), 585-594.

¹⁰⁾ Thakur, G. S., Sharma, R., Sanodiya, B. S., Pandey, M., Prasad, G. B. K. S., & Bisen, P. S. (2012). Gymnema sylvestre: An Alternative Therapeutic Agent for Management of Diabetes.

¹¹⁾ Ali, B. H., Blunden, G., Tanira, M. O., & Nemmar, A. (2008). Some phytochemical, pharmacological and toxicological properties of ginger (Zingiber officinale Roscoe): a review of recent research. Food and chemical Toxicology, 46(2), 409-420.







16) Andersen, D. B., & Holub, B. J. (1980). Myo-inositol-responsive liver lipid accumulation in the rat. *The Journal of nutrition*, *110*(3), 488-495. 17) Guy E, et al. (2007). Iodine for Greatest Mental and Physical Health.

18) Jane Higdon, et al. (2002). Linus Pauling Institute Oregon State University: Folic Acid.

19) de la Vega-Monroy, M. L., Larrieta, E., German, M. S., Baez-Saldana, A., & Fernandez-Mejia, C. (2013). Effects of biotin supplementation in the diet on insulin secretion, islet gene expression, glucose homeostasis and beta-cell proportion. *The Journal of nutritional biochemistry*, 24(1), 169-177.

20) Tong, L. (2013). Structure and function of biotin-dependent carboxylases. Cellular and Molecular Life Sciences, 70(5), 863-891.

21) Márquez, M., Yépez, C., Naranjo, R. S., & Rincón, M. (2002). Aspectos básicos y determinación de las vitaminas antioxidantes E y A. Investigación clínica, 43(3),191-204.

22) Sánchez, A. (2009). Selenio y tiroides. Ariel, 18, 40-45.

23) Tian H, Guo X, Wang X, He Z, Sun R, Ge S, Zhang Z. Chromium picolinate supplementation for overweight or obese adults. Cochrane Database of Systematic Reviews 2013, Issue 11. Art. No.: CD010063. DOI: 10.1002/14651858.CD010063.pub2

24) Naylor, G. J., Grant, L., & Smith, C. (1985). A double blind placebo controlled trial of ascorbic acid in obesity. Nutrition and health, 4(1), 25-28.

25) de Souza, A. C. S., Ferreira, C. V., Jucá, M. B., Aoyama, H., Cavagis, A. D. M., & Peppelenbosch, M. P. (2005). Riboflavina: uma vitamina multifuncional. Química Nova, 28(5), 887-891.

26) Shane B. (2000). Folic acid, vitamin B-12, and vitamin B-6. In: M. Stipanuk (ed.), *Biochemical and Physiological Aspects of Human Nutrition* (483–518). Philadelphia: W.B. Saunders Co.

27) Vitamins. Drug Facts and Comparisons. St. Louis, 2000, Facts and Comparisons; 6–33.

28) Knopp, R. H. (2000). Evaluating niacin in its various forms. The American journal of cardiology, 86(12), 51-56.

29) Greenbaum, C. J., Kahn, S. E., & Palmer, J. P. (1996). Nicotinamide's effects on glucose metabolism in subjects at risk for IDDM. Diabetes, 45(11), 1631-1634.