

Chlorofil

DuoLife CHLOROFIL - a natural dietary supplement, developed for people wishing to stay in a good shape and maintain their youthful looks. "Liquid energy" supporting the function of the immune system, the gastrointestinal tract, the heart and blood vessels. A composition of natural plant extracts, chlorophyllin and mint oil, containing a wealth of valuable antioxidants, amino acids, vitamins, and minerals, to keep the body and the mind in a perfect shape.



When?

During the period of intensive work - physical and mental effort, the body functions with increased pace and its demand for nutrients increases. As a result of exposure to chronic stress, the immune system may be weakened, which affects blood parameters, including the condition and amount of white and red blood cells. Overtired body is more susceptible to bacterial, viral and fungal infections, wounds heal more difficult, skin becomes less firm. Purification processes, including liver metabolism and kidney excretion, are weakened. In such a situation, it is advisable to increase the supply of nutrients and health-supporting dietary ingredients, also by using preparations that strengthen and support the condition of the body.

DuoLife CHLOROFIL is intended to be used as a supporting preparation for people:

- ▶ willing to stay in a good shape and maintain their energy and vitality;
- ▶ weakened, during periods of physical and mental exhaustion;
- ▶ exposed to chronic stress;
- ▶ willing to maintain proper blood morphology results, vegan and vegetarian;
- ▶ suffering from gastrointestinal disorders;
- ▶ suffering from recurring infections, badly healing wounds;
- ▶ convalescents;
- ▶ elderly people/seniors.

How?

DuoLife CHLOROFIL contains beneficial plant extracts from lucerne, chlorella and barley. The addition of mint oil and chlorophyllin synergistically supports the health-supporting effect of plant extracts.

DuoLife CHLOROFIL supports:

- ▶ antioxidative processes;
- ▶ immune system functions;
- ▶ function of the hematopoietic system;
- ▶ body detoxification functions;
- ▶ cardiovascular system function;
- ▶ repair processes in tissues;
- ▶ skin well-being;
- ▶ physiological intestinal flora function.
- ▶ functions of the gastrointestinal tract.



Duolife CHLOROFIL – usage:

10 to 20 ml once a day.



Ingredients: purified water, 20% sodium-copper chlorophyllin, chlorella standardized for 50% protein content, barley juice extract (25:1), mint oil, alfalfa herb extract (10:1), vegetable glycerine – stabilizer.

What is chlorophyllin and how does it work?

Chlorophyllin is a derivative of chlorophyll, a green pigment in plants, enabling them to conduct the photosynthesis. Its structure is similar not only to chlorophyll, but also to the haem molecule - a component of haemoglobin found in red blood cells and transporting oxygen. Chlorophyllin has similar health-supporting properties to chlorophyll and is better than the initial compound in terms of durability and water solubility¹.

Chlorophyllin is a valuable antioxidant, protects cells from oxidative stress and premature aging, supports the cardiovascular system^{1,2} and cleansing processes. It has the ability to bind (complex) carcinogens³, helps protect the body from infections^{4,5} and contributes to the elimination of bad breath from the mouth⁶.

Plant extracts from barley, chlorella and lucerne herb synergistically support their health-supporting properties.

- ▶ The iron contained in all three plants provides a substrate for haemoglobin synthesis, thus supporting immunity and normal blood-forming functions, helping to prevent anaemia⁷⁻¹⁰. In 1 g of lucerne herb there is almost twice as much iron as in spinach⁷!
- ▶ These plants are also a source of amino acids, including exogenous ones, which are valuable building blocks for proteins; thus, they promote good skin condition, can help regenerate damaged tissues and heal wounds⁷⁻⁹.
- ▶ All 3 plants have antioxidant properties, scavenge harmful free radicals, supporting the function of the heart and vessels; they also help maintain normal blood cholesterol and glucose levels^{2,7-9,11}.
- ▶ They have a supportive effect on the digestive tract: they contribute to better digestion^{7,9,11}; chlorella and barley act as prebiotics, stimulating the growth of beneficial intestinal microflora^{9,11}. Barley is an important source of dietary fibre, which accelerates the intestinal passage and promotes the maintenance of normal body weight - fibre is a so-called ballast component - it is not digested, but fills the digestive tract, prolonging the feeling of satiety¹¹.
- ▶ All 3 plants also support the proper functions of the immune system, help the body in the fight against infections, contribute to improving the processes of purification of the body^{7-9,11}.
- ▶ Lucerne and chlorella are valuable sources of chlorophyll, with health-supporting properties similar to those of chlorophyllin; both plants also contain vitamin K to support proper blood clotting^{7,9}.

Does mint oil only refresh and flavour?

Not only that! Mint oil helps fight bacterial, viral and fungal infections. The oil has antioxidative properties, supporting the cardiovascular system function, and prevention of chronic diseases. It also contributes to the proper functioning of stomach and intestines, helping to fight indigestion, nausea and systolic states¹²⁻¹⁴.

What makes DuoLife CHLOROFIL different?

- ▶ **The liquid form of the preparation with the preserved biological background of the components**, facilitating the release of active compounds and their absorption into the bloodstream, as well as increased absorption, translate into more efficient distribution to the place of action (beneficial effect on LADME processes*).
- ▶ **The product is preserved using IHHP™ by DuoLife** – (Innovation High Hydrostatic Process™ by DuoLife), a method based on the concept of „minimal processing“. The advantage of the method is high health quality and durability and preservation of the natural nutritional and sensory qualities, compared to products preserved by classical methods. The technological process employed is conducted at a low temperature (to protect active ingredients) and is based on the principle of synergy of multiple fixatives, allowing to maintain the highest quality of the product without using preservatives.

- ▶ **100% natural ingredients**, including plant extracts synergistically supporting their effect.
- ▶ **Formulation prepared in consideration of the principles of synergy and antagonism.**
- ▶ **The product DOES NOT CONTAIN preservatives and is GMO FREE** – the raw materials used to develop the supplement ARE NOT DERIVED from genetically modified organisms; furthermore, the preparation does not contain artificial flavourings and aromas.
- ▶ **The product is GLUTEN-FREE** - can be used by people with gluten intolerance.
- ▶ **Special bottle from pharmaceutical-grade glass** - the dark glass protects against light and temperature fluctuations, and is resistant to release to the formulation of mineral substances from its inner surface of the bottle.
- ▶ **Umbrella brand** - the effect of the liquid form is complemented by a cosmetic with high naturality index of the DuoLife Beauty Care line - BODY PEELING, which has a cleansing effect on the skin, stimulating blood circulation, improving the skin's ability to absorb the balm/cream.

i *The references for DuoLife Liquid Form Chlorofil can be found on a separate binder sheet.*

*LADME – is an English abbreviation describing processes to which an active substance is subjected in the body: release from the preparation form -> absorption into a bloodstream -> distribution in the body -> metabolism -> excretion

References

1. Kamat, J. P., Bloor, K. K., & Devasagayam, T. P. (2000). Chlorophyllin as an effective antioxidant against membrane damage in vitro and ex vivo. *Biochimica et Biophysica Acta (BBA)-Molecular and Cell Biology of Lipids*, 1487(2-3), 113-127.
2. Flora, S. J. S. (2007). Role of free radicals and antioxidants in health and disease. *Cellular and Molecular Biology*, 53(1), 1-2.
3. Egner, P. A., Wang, J. B., Zhu, Y. R., Zhang, B. C., Wu, Y., Zhang, Q. N., ... & Helzlsouer, K. J. (2001). Chlorophyllin intervention reduces aflatoxin-DNA adducts in individuals at high risk for liver cancer. *Proceedings of the National Academy of Sciences*, 98(25), 14601-14606.
4. Buchovec I, Lukseviciūtė V, Kokstaite R, Labeikyte D, Kaziukonyte L, Luksiene Z. (2017) Inactivation of Gram (-) bacteria *Salmonella enterica* by chlorophyllin-based photosensitization: Mechanism of action and new strategies to enhance the inactivation efficiency. *J Photochem Photobiol B*. 2017 Jul ;172:1-10.
5. Caires CSA, Leal CRB, Ramos CAN, Bogo D, Lima AR, Arruda EJ, Oliveira SL, Caires ARL, Nascimento VA. (2017) Photoinactivation effect of eosin methylene blue and chlorophyllin sodium-copper against *Staphylococcus aureus* and *Escherichia coli*. *Lasers Med Sci*. 2017 Jul;32(5):1081-1088.
6. Majbaududin A, Kodani I, Ryoke K. (2015) The Effect of Bamboo Leaf Extract Solution and Sodium Copper Chlorophyllin Solution on Growth and Volatile Sulfur Compounds Production of Oral Malodor Associated Some Anaerobic Periodontal Bacteria. *Yonago Acta Med*. 2015 Sep;58(3):129-36.
7. Miemann, A. (2013). The utilisation of lucerne (*Medicago sativa*): a review. *British Food Journal*, 115(4), 590-600.
8. Marwat, S., Hashimi, M., & Khan, K. (2012). Barley (*Hordeum vulgare* L.) A prophetic food mentioned in Ahadith and its ethnobotanical importance. *American-Eurasian J Agric Environ Sci*, 12(7), 835-41.
9. Kay R.A., *Microalgae as food and supplement*, „Critical Reviews in Food Science and Nutrition” 1991, 30(6), 555–573.
10. Matsuura E. et al., *Effect of chlorella on rats with iron deficient anemia*, „Advances in Clinical and Experimental Medicine” 1991, 64(4), 193–204
11. Plaami, S. P. (1997). Content of dietary fiber in foods and its physiological effects. *Food Reviews International*, 13(1), 29-76.
12. Kusiak, A., Kędzia, A., Mołęda-Ciszewska, B., Kędzia, A. W., Maciejewska, K., Włodarkiewicz, A., & Kwapisz, E. (2010). Działanie olejku z mięty pieprzowej na bakterie beztlenowe. *Dental and Medical Problems*, 47(3), 334-338.
13. McKay, D. L., & Blumberg, J. B. (2006). A review of the bioactivity and potential health benefits of peppermint tea (*Mentha piperita* L.). *Phytotherapy Research: An International Journal Devoted to Pharmacological and Toxicological Evaluation of Natural Product Derivatives*, 20(8), 619-633.
14. Grzeszczuk M., Jadczak D., 2009, Estimation of biological value of some species of mint (*Mentha* L.), *Herba Polonica*, vol. 55 (3), pp. 193–199.