Cordyceps Extract 8:1

60 vegetable capsules / Code FE1866



Cordyceps is a supplement consisting of a pure and high strength (8:1) extract of the medicinal fungus *Paecilomyces hepiali*. The extraction method is validated, guaranteeing an extract of 40% polysaccharides providing 20% *beta*-glucans. The mushrooms, which our formulation includes, come from controlled and sustainable cultivation, since they are grown in greenhouses in controlled climacic conditions, free of heavy metals, herbicides and pesticides in order to guarantee the strength and purity of the extract.

Each vegetable capsule contains **500 mg of Cordyceps** in extract form, suitable for vegetarians, vegans, and people with coeliac disease.



FORMAT: 60 vegetable capsules

FORMULA

Ingredients: Cordyceps extract (*Ophiocordyceps sinensis*), anticaking agent: magnesium salts of fatty acids and silicon dioxide, vegetable capsule (glacing agent: hydroxypropylmethylcellulose; purified water).

Nutritional information: 1 capsule

Cordyceps extract 8:1 (40% polysaccharides providing 20% beta-glucans)

500 mg

Hot water extraction.

Cautions: Consult a health-care practitioner before use if you are pregnant or breast-feeding, if you are treated with medication, especially anticoagulants, or if you have a special medical condition.

Recommended daily dose:

1 capsule daily. Do not exceed the stated recommended daily dose.

Indications and uses:

- As an antioxidant it is helpful for anti-ageing therapies.
- It increases energetic potential (sports performance, the ability to concentrate and states of convalescence) and sexual
 function.
- It has beneficial effects on female fertility and in the prevention of post-menopausal osteoporosis.
- Diabetes: it increases insulin release.
- Hepatoprotection: it inhibits hepatic fibrosis and helps re-establish hepatic function in animal studies.
- Renal protection
- Immune booster for a variety of imbalances related to viral and bacterial infections, repeated infection and immune deficiency.
- It can be very supportive in cardiovascular and atherosclerotic as well as respiratory disorders (asthma, bronchitis...).

DETAILS:

A high-strength supplement based on pure extract (8:1) of the medicinal mushroom *Paecilomyces hepiali*, a variety of *Ophiocordyceps sinensis* (*Cordyceps sinensis*) which is used for industrial fermentation. HPLC analysis has shown that it has the same chemical profile as the traditionally used form ⁽¹⁾.

Cordyceps is a medicinal mushroom that grows in the wild at high altitudes that are free of pollution in the Himalayan mountains and the Tibetan Plateau. It is unique among medicinal mushrooms because it grows within a host, the caterpillar. This parasitic fungus grows on the larva of a moth, *hepialus armoricanus*, absorbing all of its nutrients from the caterpillar's body ⁽¹⁾.

It is highly appreciated in traditional Chinese medicine for its anti-ageing properties and its applications, including the treatment of suprarenal fatigue, respiratory and renal disorders, and improving resistance and libido.

Cordyceps is especially beneficial for hepatic, renal and cardiovascular diseases, as well as immune disorders, and even cancer. This action is mainly caused by active polysaccharides, modified nucleotides and cyclosporine metabolites produced by the fungus. It contains cordycepic acid, glutamic acid, D-mannitol, sterols, B vitamins and up to 20 minerals, among other properties.

Cordyceps Extract 8:1

60 vegetable capsules / Code FE1866



The method of polysaccharide extraction is a critical point that determines the concentration and efficacy of the product. Our extract is obtained through a validated extraction process in hot water which concentrates, guarantees and preserves the active compounds, leading to a higher final concentration of polysaccharides. Mycelium contains polysaccharides that are bound to the cell walls of chitin, which is indigestible in the gastrointestinal tract. Chitin must be dissolved in hot water in order to release the polysaccharides and guarantee a high polysaccharide content as well as greater bioavailability. The extract is standardized to 40% polysaccharide content.

The mushrooms used for our formulation have been cultivated in greenhouses under climate controlled conditions and are free of heavy metals, herbicides and pesticides in order to guarantee the purity and strength of the extract.

INGREDIENTS:

<u>CORDYCEPS</u>: Used in Traditional Chinese Medicine as an aphrodisiac and diuretic, it favours kidney function because of its mannitol content. The antioxidants supplied by this fungus neutralize the free radicals responsible for cell mutation, the cause of the ageing process. By reducing cell damage and acting on collagen, antioxidants help prevent expression lines and wrinkles and preserve a youthful appearance in the skin ^(2,3).

Cordyceps causes an increase in ATP levels in cells and increases aerobic capacity and oxygen use, as well as offering a greater resistance to fatigue. In athletes it improves sports performance upon increasing muscle tissue metabolism. In healthy individuals between 50 and 75 it improves exercise capacity and resistance to fatigue (4).

In sedentary people, aerobic capacity is increased ⁽⁵⁾ while in athletes this effect is not noticed since maximum aerobic capacity has already been reached ⁽⁶⁾. It increases the antioxidant capacity of enzymes such as superoxide dismutase, glutathione peroxidase and catalase, providing additional benefits for cardiovascular health in older patients, while its anti-fatigue and anti-stress effect allows for its use in cases of asthenia and depression ⁽²⁾.

This fungus treats hyposexuality, driving sexual desire. It increases libido in both men and women, and increases steroid hormones in urine. One study has shown that cordyceps acts through the sex hormone system by exerting a regulatory effect on reproductive organs, indicating its use for infertility and irregular menstruation by stimulating the production of 17β -estradiol (oestrogen) ⁽⁸⁾. This effect could be beneficial for the treatment of post-menopausal osteoporosis ⁽⁹⁾. Other studies in animals have shown that it increases male hormone levels and improves the quality and quantity of sperm ⁽⁷⁾.

Cordyceps can also increase insulin release and cellular insulin sensitivity ^(10,11). Cordycepin and its derivatives have an active role in its anti-diabetic action ⁽¹²⁾. Additionally, in animals it has been proven capable of inhibiting hepatic fibrosis and of helping re-establish and improve hepatic function in patients with renal failure ⁽¹³⁾. It protects the kidneys from nephrotoxicity caused by cyclosporine ⁽¹⁴⁾ and gentamicin ⁽¹⁵⁾.

Its nucleosides inhibit viral replication (19) and its polysaccharides modulate immune response to viral infections (20).

The fungus strengthens the respiratory system and has a mucolytic and cough suppressing function. This makes it valid as a treatment for asthma, chronic bronchitis, respiratory insufficiency, emphysema, tuberculosis and cystic fibrosis (16,17).

Research has revealed that it has a regulating effect on blood lipid metabolism, helps control hyperlipidaemia and acts against the formation of atherosclerosis, decreasing triglycerides and increasing HDL cholesterol ⁽¹⁸⁾.

Cordyceps modulates the immune system, preventing organ transplant rejection and protecting against the effects of radiotherapy, particularly on bone marrow and the gastrointestinal system. It carries out an important role in immune modulation by stimulating Th cells, prolonging lymphocyte survival and increasing the production of tumour necrosis factor and interleukin. In vitro evidence shows promising activity for cancer treatment ⁽²¹⁻²⁴⁾. It aids recovery from Taxol-induced leukopenia in mice. ⁽²⁵⁾ It also offers protection against radiotherapy-induced damage to bone marrow and intestinal tissue in mice ⁽²⁶⁾.

The effective dose was 3-6 g/day for most conditions. Doses of up to 50 g/day have been used with good results in cancer $^{(27)}$. It improves survival in patients with hepatocellular carcinoma $^{(28)}$.

Cordyceps Extract 8:1

60 vegetable capsules / Code FE1866



References:

- 1) Powell, Martin. Medicinal Mushrooms-A Clinical Guide. Mycology Press, 2015.
- 2) Ji, Deng-Bo, et al. "Antiaging effect of Cordyceps sinensis extract." Phytotherapy Research 23.1 (2009): 116-122.
- 3) Canney, Simon. "Cordyceps sinensis animal, vegetable or both?." Journal of Chinese Medicine 80 (2006).
- 4) Chen, Steve, et al. "Effect of Cs-4*(Cordyceps sinensis) on exercise performance in healthy older subjects: A double-blind, placebo-controlled trial." The Journal of Alternative and Complementary Medicine 16.5 (2010): 585-590.
- 5) Yi, Xiao, Huang Xi-zhen, and Zhu Jia-shi. "Randomized double-blind placebo-controlled clinical trial and assessment of fermentation product of *Cordyceps sinensis* (Cs-4) in enhancing aerobic capacity and respiratory function of the healthy elderly volunteers." Chinese Journal of Integrative Medicine 10.3 (2004): 187-192.
- 6) Walker, Thomas B. "Does Cordyceps sinensis Ingestion Aid Athletic Performance?." Strength and Conditioning Journal 28.2 (2006): 21.
- 7) Huang, Bu-Miin, et al. "Upregulation of steroidogenic enzymes and ovarian 17β-estradiol in human granulosa-lutein cells by *Cordyceps sinensis* mycelium." Biology of reproduction 70.5 (2004): 1358-1364.
- 8) Qi, Wei, et al. "The mechanism of *Cordyceps sinensis* and strontium in prevention of osteoporosis in rats." Biological trace element research 143.1 (2011): 302-309.
- 9) Hsu, Chih-Chao, et al. "In vivo and in vitro stimulatory effects of *Cordyceps sinensis* on testosterone production in mouse Leydig cells." Life Sciences 73.16 (2003): 2127-2136.
- 10) Kiho, Tadashi, et al. "Structural features and hypoglycemic activity of a polysaccharide (CS-F10) from the cultured mycelium of *Cordyceps sinensis*." Biological and Pharmaceutical Bulletin 22.9 (1999): 966-970.
- 11) Kiho, T., et al. "Hypoglycemic activity of a polysaccharide (CS-F30) from the cultural mycelium of *Cordyceps sinensis* and its effect on glucose metabolism in mouse liver." Phytother Res 4 (2000): 647-9.
- 12) Shin, Seulmee, et al. "Cordycepin suppresses expression of diabetes regulating genes by inhibition of lipopolysaccharide-induced inflammation in macrophages." Immune Network 9.3 (2009): 98-105.
- 13) Wang, Ying, et al. "Protection of chronic renal failure by a polysaccharide from Cordyceps sinensis." Fitoterapia 81.5 (2010): 397-402.
- 14) Xu, F., et al. "Amelioration of cyclosporin nephrotoxicity by *Cordyceps sinensis* in kidney-transplanted recipients." Nephrology Dialysis Transplantation 10.1 (1995): 142-143.
- 15) Zhen, F., J. Tian, and L. S. Li. "Mechanisms and therapeutic effect of *Cordyceps sinensis* (CS) on aminoglycoside induced acute renal failure (ARF) in rats." Zhongguo Zhong xi yi jie he za zhi Zhongguo Zhongxiyi jiehe zazhi= Chinese journal of integrated traditional and Western medicine 12.5 (1992): 288-91.
- 16) Zheng, L. Y., and W. W. Deng. "The clinical efficacy of *Cordyceps sinensis* Cs-4 capsule in treating chronic bronchitis and its effect on pulmonary function." J Admin Trad Chin Med 5 (1995): 9-11.
- 17) Qiuo, Y. L., and X. C. Ma. "Treatment of 32 tussive asthma patients with JinShuiBao." Chin J Integr Trad Western Med. (Chung-KuoChungHsi I Chieh Ho Tsa Chih) 13 (1993): 660.
- 18) Panda, Ashok Kumar, and Kailash Chandra Swain. "Traditional uses and medicinal potential of *Cordyceps sinensis* of Sikkim." Journal of Ayurveda and integrative medicine 2.1 (2011): 9.
- 19) Montefiori, David C., et al. "Phosphorothioate and cordycepin analogues of 2', 5'-oligoadenylate: inhibition of human immunodeficiency virus type 1 reverse transcriptase and infection in vitro." Proceedings of the National Academy of Sciences 86.18 (1989): 7191-7194.
- 20) Kuo, Yuh-Chi, et al. "Cordyceps sinensis as an immunomodulatory agent." The American journal of Chinese medicine 24.02 (1996): 111-125.
- 21) Wang, Xu-An, et al. "Cordycepin induces S phase arrest and apoptosis in human gallbladder cancer cells." Molecules 19.8 (2014): 11350-11365.
- 22) Chen, Lisa S., Christine M. Stellrecht, and Varsha Gandhi. "RNA-directed agent, cordycepin, induces cell death in multiple myeloma cells." British journal of haematology 140.6 (2008): 682-391.
- 23) Wong, Ying Ying, et al. "Cordycepin inhibits protein synthesis and cell adhesion through effects on signal transduction." Journal of Biological Chemistry 285.4 (2010): 2610-2621.
- 24) Zhou, Xiaoxia, et al. "Effect of cordycepin on interleukin-10 production of human peripheral blood mononuclear cells." European journal of pharmacology 453.2-3 (2002): 309-317.
- 25) Liu, Wei-Chung, et al. "Cordyceps sinensis health supplement enhances recovery from taxol-induced leukopenia." Experimental biology and medicine 233.4 (2008): 447-455.
- 26) Liu, Wei-Chung, et al. "Protection against radiation-induced bone marrow and intestinal injuries by *Cordyceps sinensis*, a Chinese herbal medicine." Radiation research 166.6 (2006): 900-907.
- 27) Holliday, John C., and Matt P. Cleaver. "Medicinal value of the caterpillar fungi species of the genus *Cordyceps* (Fr.) Link (*Ascomycetes*). A review." International Journal of Medicinal Mushrooms 10.3 (2008).
- 28) Niwa, Yukie, et al. "Evidence that naturopathic therapy including *Cordyceps sinensis* prolongs survival of patients with hepatocellular carcinoma." Integrative cancer therapies 12.1 (2013): 50-68.