



Cordyceps

Stock #1240-5 (90 capsules)

Cordyceps may well be one of the most therapeutically active medical plants in Chinese medicine. Also known as Dong Chong Xia Cao, cordyceps is an ancient Chinese tonic herb that has been used as a traditional medicine to combat fatigue, enhance vitality, and promote longevity—it has a warm, sweet flavor and is used as a tonic, astringent, expectorant, anti-asthmatic, and sedative. Cordyceps is a rare and highly-prized edible fungus (mushroom) that, in the wild, grows on the larvae of certain caterpillar, hence the common name “Chinese caterpillar fungus.” Although once restricted for use exclusively in the emperor’s palace, in the late 1970’s, the Chinese government began an extensive research campaign to find alternate means of cultivating this highly-prized and now-protected herb.¹⁻⁵

In China, cordyceps is regarded as nothing short of an anti-aging miracle. Chinese researchers report that older people feel stronger and more energetic after taking cordyceps. In support of such claims, scientific studies have found that cordyceps increases levels of naturally-produced antioxidants, including superoxide dismutase (SOD)—one of the body’s most important and powerful antioxidants. Age-related decline in antioxidant levels is believed to be a strong link in the development of numerous diseases such as arthritis and heart disease, and in the aging process itself.^{2,3,5}

According to Traditional Chinese medicine (TCM) dating back thousands of years and still in use today, cordyceps is specifically recommended for the treatment of debility following illness, fatigue, impotence, kidney disease, and upper respiratory tract disorders. Cordyceps focuses much of its action on the kidneys, which represent the site where *chi* (life energy) is “grasped.” Although the lungs bring chi into the body, it is up to the kidneys to grasp it. In TCM, kidney problems are associated with respiratory ailments and chronic asthma. Thus, cordyceps is used to support the kidneys (tonifies kidney yang), and treat conditions stemming from weak kidney energy, including weak back and knees and impotence. In addition, cordyceps is recommended for lung problems (associated with kidney yang deficiency), especially if symptoms include chronic cough and cough with blood in the sputum. Cordyceps is also highly regarded as a tonic with properties similar to ginseng, especially immunostimulant activity.¹⁻⁵

Cordyceps is regularly used in China today for treating bronchial inflammation and chronic bronchitis, pneumonia, pulmonary emphysema, and tuberculosis. Researchers have verified marked bronchodilatory activity, as well as the potentiation of epinephrine—a bronchodilator. Cordyceps’ effectiveness in treating respiratory problems such as asthma may also be due to its ability to inhibit tracheal contractions and relax bronchial airways, as evidenced in a recent animal study. In addition, cordyceps is commonly recommended for debility, weakness and exhaustion, anemia, spontaneous perspiration and night sweats, and malignancies (in combination with other substances).^{2,3}

An extensive review of preclinical in vitro and in vivo studies and clinical blinded or open-label trials to date, involving 2,000 individuals, has verified that cordyceps acts as an antioxidant, restores sexual function, supports the endocrine system, and provides anti-atherosclerotic, antisenescence (anti-aging), and hypolipidemic (blood-fat lowering) activity. Cordyceps has also been shown to have antibacterial, anti-tumor and immune-enhancing properties.^{2-4,6}

TCM’s view of cordyceps as a kidney tonic that supports and strengthens healthy function has been confirmed by scientific research. Studies show that cordyceps significantly promotes DNA synthesis in kidney cells, which is indicative of increased regeneration of damaged cells. Cordyceps has also been shown to have a regulative effect on cellular immunity and promote a high level of interleukin-1 (an immune system hormone that stimulates T-cell function) activity, which may explain the mushroom’s experimental success and traditional use against kidney disease. (Individuals with chronic kidney disease typically exhibit suppressed T-cell function.) For example, a study of 51 patients with chronic kidney failure showed that those receiving 3-5 grams of *Cordyceps sinensis* daily experienced significant improvement in kidney function, as well as enhanced cellular immune function. Furthermore, cordyceps demonstrates a protective effect on the kidneys, as confirmed by 2 different human trials. In both trials, individuals with healthy kidney function were given aminoglycoside antibiotics, which induce kidney toxicity. The groups receiving cordyceps showed fewer signs of toxicity, confirming cordyceps’ protective effect.^{2,3,7-10}

Although the idea of using cordyceps to restore sexual function is an ancient tradition among the Chinese, recent scientific studies have proven its effectiveness. Cordyceps has been shown to inhibit contractions of the corpus cavernosum of the penis—when the smooth muscles of the corpus cavernosum relax, blood is able to enter, producing an erection as the blood becomes trapped. In addition, a placebo-controlled clinical trial was conducted

involving 243 male and female patients diagnosed with sexual hypofunction. Improvement or restored sexual activity was confirmed in 64% of those receiving cordyceps (330mg taken 3 times daily for 40 days). Cordyceps has also been found to help women experiencing menopausal symptoms, and has even been used to promote fertilization.^{2,4}

Researchers have also found that cordyceps acts as a fortifying agent for the liver by improving liver function. In fact, cordyceps has demonstrated a short-term curative effect on hepatitis B. A clinical study of 33 individuals with chronic hepatitis B showed that treatment with cordyceps mycelia—the underground portion of the mushroom—improved liver function, increased plasma albumin, inhibited high gamma globulin, and adjusted body immunocompetence. Such results have promoted researchers to suggest that cordyceps be used as a treatment for individuals with chronic hepatitis B, for correcting protein metabolism and the inversion of albumin and globulin.^{2,4,11}

The traditional use of cordyceps as a natural sedative may be due to its high tryptophan content. Japanese researchers have also identified several nucleic acids, particularly adenosine, which may contribute to the herb's calming activity. Adenosine, which occurs naturally in the body as a neurotransmitter, exhibits a direct relaxing effect on vascular smooth muscle and reduces the excitability of nerves. However, cordyceps may owe its sedative effect, at least in part, to the inhibition of monoamine oxidase (MAO)—an effect which has been confirmed in animal studies.^{2,3,12,13}

Cordyceps mycelial powder has been used in Chinese hospitals since 1984 for the treatment of arrhythmia. Several animal studies initially confirmed the antiarrhythmic effects of cordyceps, prompting researchers to conduct human clinical trials. A recent study involving 37 individuals with supraventricular or ventricular arrhythmia showed that over 50% were cured within three weeks of daily cordyceps use. Another study was performed, using 200 individuals with lengthy histories of arrhythmia, many of whom had also been diagnosed with coronary heart disease or with heart problems stemming from a previous viral infection. Plus, over 80% of the participants had taken prescription medications for arrhythmia with no success. After 14 days of treatment, 74.5% of those receiving cordyceps (500mg three times daily) experienced effective results with no side effects, while only 26.3% of participants in the control group registered positive results. Researchers noted that adenosine and related compounds found in cordyceps may be responsible for this antiarrhythmic activity. Incidentally, adenosine was granted FDA approval in the U.S. in 1989 for the treatment of supraventricular arrhythmia.^{2,3,14}

A large controlled clinical trial confirmed the significant cholesterol-lowering properties of cordyceps. A reduction in LDL cholesterol, total cholesterol and total glycerides, as well as a significant increase in HDL cholesterol was achieved in patients receiving 330mg of cordyceps mycelium three times daily for 60 days. Researchers also noted a lack of any serious side effects and the ability for safe long-term use.^{2,3}

Additionally, Japanese researchers have found that cordyceps can dilate the aorta by as much as 40% under stress, enabling increased blood flow to muscles being pushed to their limits, thus causing a significant improvement in endurance. In fact, cordyceps has been shown to effectively increase stamina and ability during exercise and to dramatically enhance energy production, which explains its wide use among Chinese athletes. For example, a team of 9 Chinese female runners broke 9 world records at the 1993 Chinese National Games in Beijing—the runners gave credit to their rigorous training regimen and their use of cordyceps. Researchers believe that cordyceps enhances athletic performance by opening up the airways to allow more oxygen into the body. Since oxygen is essential for the body's production of energy, increasing available oxygen results in greater endurance.¹⁻⁵

Furthermore, cordyceps is well known for its ability to stimulate immune function. Substances known as polysaccharides are primarily responsible for the mushroom's immunostimulant effects. Cordyceps polysaccharides have been found to stimulate macrophage and lymphocyte activity, as well as provide protection against damage from chemotherapy and radiation. Cordyceps also contains substances which demonstrate anti-tumor activity and the ability to stimulate antibody-forming cells (immunoglobulins G and M)—successful animal studies indicate the possible use of cordyceps as an anti-tumor agent in the treatment of lymphoma and other cancers.^{2,4,15-18} In vitro studies show that cordyceps polysaccharides can significantly inhibit the proliferation of human leukemic cells by 78-83%.¹⁹ In addition, in vitro and in vivo studies found that cordyceps stimulates the activity of NK (Natural Killer) cells, indicating its potential for use as an immunopotentiating agent in the treatment of cancer, including adult leukemia, and immunodeficient patients.^{2-4,20,21} Incidentally, decreased NK cell activity also occurs in Crohn's disease, multiple sclerosis, systemic lupus erythematosus, and is the most frequent immune abnormality exhibited in individuals with chronic fatigue syndrome (CFS). Furthermore, a clinical study of 36 individuals diagnosed with advanced breast and lung cancer showed that a pharmaceutical preparation providing similar active principles as found in *Cordyceps sinensis* restored cellular immunological function and improved the patients' quality of life.^{3,4,22}

Cordyceps has been shown to be a safe supplement with very low toxicity, unless massive doses are taken. However, cordyceps is not recommended in cases where there is bleeding, or for individuals receiving

immunosuppressant medications for bone grafts and organ transplants. In addition, cordyceps may potentiate the effects of some anticoagulant and heart medications, as well as epinephrine bronchodilators.³

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