



**Scientific Name:** Gynostemma

**Other Names:** Amachazuru, Gynostemma pentaphyllum, Jiaogulan, Miracle Grass, Southern Ginseng, Vitis pentaphyllum, Xianxao

**Trade Names:** Aum Tea, Immortalitea

### **Who is this for?**

#### **Uses**

Although it has been used to treat a wide range of diseases in its native areas of China, gynostemma has been studied most for its effects on the heart and blood vessels. Gynostemma may have a direct strengthening effect on the heart, possibly causing the heart to beat more powerfully. It may also have a number of secondary cardiovascular effects, such as reducing the stickiness of blood components called platelets. Created in the bone marrow, platelets circulate in the blood. In a process called "platelet aggregation", they stick to injured tissue, beginning the blood clotting process and promoting wound healing. Gynostemma's potential reduction in platelet aggregation may help to reduce the build up of plaques in blood vessels. Plaques are accumulations of fats and blood cells that may lead to heart attacks or strokes if blood flow becomes restricted. In addition, gynostemma has been shown in laboratory studies to widen blood vessels – an effect that may both lower blood pressure and reduce the workload on the heart. Some evidence suggests that gynostemma also contains chemicals that may lower cholesterol levels in the blood. All of these potential effects need more human studies to prove or disprove them.

Because it is an antioxidant, gynostemma may also have potential as an anticancer and immune-stimulating agent. Antioxidants are thought to protect body cells from damage caused by a chemical process called oxidation, which produces oxygen free radicals, natural chemicals that may also suppress immune function. As shown in laboratory studies of human cancer cells, gynostemma may disrupt normal cell division in cancer cells, thereby preventing or delaying the onset of cancer and possibly destroying existing cancerous tumors. This anticancer effect has also been seen in early results from a few animal studies. Separate animal studies show that gynostemma may also help to regulate the immune system. When it was given to animals with either deficient or overactive immune systems, gynostemma appeared to return immune function to more normal levels. The antioxidant effects of gynostemma may also protect the liver from some of the damage caused by certain drugs or chemicals or by chronic alcohol abuse. In animal studies, gynostemma has interfered with the development of liver fibrosis – the formation of scar-like fibers in the liver. Because the non-functioning fibers crowd out active liver tissue, liver function decreases gradually as the amount of fibrous tissue increases. All these possible effects need further study to prove or disprove them.

### **When should I be careful taking it?**

In studies of animals, gynostemma may have caused birth defects in some of the babies born to mothers given gynostemma during pregnancy. Although no reports of similar effects have been reported in humans, women who are pregnant are advised to avoid gynostemma.

### **Precautions**

Very little information is available on how gynostemma might affect an infant or a small child. Therefore, its use is not recommended while breast-feeding or during early childhood.

### **What side effects should I watch for?**

Nausea – sometimes described as serious -- has been associated with taking gynostemma. Also reported is a possible increase in the number of bowel movements.

No other side effects have been reported consistently from using gynostemma. Since few reliable studies of its use have been conducted in humans, however, it may have side effects that are not yet known. If you experience unexplained side effects while taking gynostemma, you should stop taking it and tell your doctor or pharmacist about the side effects.

### **What interactions should I watch for?**

#### **Prescription Drugs**

In studies, gynostemma has been shown to increase the time blood needs to clot. When it is taken with antiplatelet or anticoagulant drugs, the effect of the drug may be increased, resulting in uncontrolled bleeding.

- Antiplatelets include Plavix and Ticlid
- Anticoagulants include heparin and warfarin

Because it can enhance immune system function, gynostemma may interfere with the effects of drugs used to suppress the immune system after organ transplants or in other conditions. Taking gynostemma is not recommended for patients who take drugs such as:

- azathioprine (Imuran)
- CellCept
- cyclosporine (Neoral, Sandimmune)
- Prograf
- Rapamune
- Zenapak

#### **Non-prescription Drugs**

Gynostemma can affect the ability of blood to clot after an injury. Aspirin can also delay clotting, so gynostemma should not be taken at the same time as aspirin.

#### **Herbal Products**

Theoretically, if gynostemma is used with other herbs that affect blood clotting, bleeding may occur. Some of the most common herbal products that might inhibit blood clotting are:

- Danshen
- Devil's Claw
- Eleuthero
- Garlic
- Ginger (in high amounts)
- Ginkgo
- Horse Chestnut
- Panax Ginseng
- Papain

Some interactions between herbal products and medications can be more severe than others. The best way for you to avoid harmful interactions is to tell your doctor and/or pharmacist what medications you are currently taking, including any over-the-counter products, vitamins, and herbals. For specific information on how gynostemma interacts with drugs, other herbals, and foods and the severity of those interactions, please use our [Drug Interactions Checker](#) to check for possible interactions.

### **Should I take it?**

Originally found growing wild in south western parts of China, gynostemma is a vine with leaves that most often are divided into five leaflets – usually with a larger leaflet at the end of the leaf stem surrounded by leaflets of decreasing size on either side. Gynostemma belongs to the same family of plants as cucumbers and melons, but it does not bear an edible fruit or vegetable. Instead, it has small dark berries that follow light yellow flowers. While the seeds will sprout, gynostemma ordinarily spreads by sending out runners, which are woody extensions of roots that run under the ground and produce shoots for new plants. It is now grown commercially throughout Southeast Asia. Commercial cultivation is usually done in greenhouses or under open tents because gynostemma wilts in direct sunlight. Harvested in the late summer, the leaves of gynostemma are dried and used for medicine. Due to the saponins in gynostemma, it may also be used in soaps and detergents.

Although it has long been used for medicine and beverages in southern China, gynostemma was not known to the general scientific community until relatively recently. A naturally sweet plant, gynostemma was first studied in the 1970s as a possible sugar substitute. However, during early research it was discovered to contain chemicals that are similar to those in panax ginseng. Currently, researchers are investigating the role of gynostemma in preventing and treating a wide variety of conditions.

### **Dosage and Administration**

In the few studies conducted in humans, a common daily amount used to lower cholesterol levels was 30 mg of gynostemma extract, taken in three 10 mg doses. For treating other conditions, recommended doses vary from about 20 mg to over 150 mg per day. While even large doses (several cups of gynostemma tea per day) appear to be safe, no scientific documentation is available to confirm a maximum dosage.

**Note:** The active ingredients in gynostemma are known as saponins. This large group of chemicals is characterized by their general ability to make soap-like suds when they are mixed with water and the mixture is shaken. Saponins may have many effects in the body, including positive ones such as improving immune function. Saponins may also have negative effects such as blocking the digestion of some nutrients. Gynostemma may contain over 80 different types of saponins. Because the content of saponins and other chemicals in gynostemma varies greatly depending on the species of the plant and the conditions under which it grows, standardizing gynostemma products is difficult. Standardization by the manufacturer should assure the same amount of active ingredient in every batch of the commercial preparation. Standardization of herbal products is not required by the U.S. Food and Drug Administration (FDA), so not every gynostemma product that is available contains the same amounts of active ingredients.

### **Summary**

Gynostemma has been studied most for its effects on the heart and blood vessels. It may help to lower blood cholesterol levels, blood pressure, and heart rate. Gynostemma may also have antioxidant properties that may make it useful for treating cancer and for increasing the function of the immune system.

### **Risks**

Because it has caused birth defects in animals, gynostemma should be avoided by pregnant women. Small children and breast-feeding women are also advised to avoid taking it, since so little is known about its possible long-term effects.

### **Side Effects**

The only side effect currently attributed to gynostemma is nausea.

### **Interactions**

The antiplatelet properties of gynostemma may increase the risk of uncontrolled bleeding if it is taken at the same time as drugs or herbals that also thin the blood. Taking it may also counteract the effects of drugs used to prevent organ transplant rejection.

### **References**

Aktan F, Henness S, Roufogalis BD, Ammit AJ. Gypenosides derived from *Gynostemma pentaphyllum* suppress NO synthesis in murine macrophages by inhibiting iNOS enzymatic activity and attenuating NF-kappaB-mediated iNOS protein expression. *Nitric Oxide*. 2003;8(4):235-242.

Anon. Fibrosis. In: Beers, MH, Berkow R, Burs M (eds). *The Merck Manual of Diagnosis and Therapy*, 17th ed. Whitehouse Station, New Jersey: Merck & Co, Inc; 1999.

Blumert M, Liu JL (Eds). *Jiaogulan (Gynostemma pentaphyllum) – China's "Immortality" Herb*. Badger, California: Torchlight Publishing; 1999.

Chan LY, Chiu PY, Lau TK. An in-vitro study of ginsenoside Rb(1)-induced teratogenicity using a whole rat embryo culture model. *Human Reproduction*. 2003;18(10):2166-2168.

Chen JC, Chung JG, Chen LD. Gypenoside induces apoptosis in human Hep3B and HA22T tumour cells. *Cytobios*. 1999;100(393):37-48.

Chen JC, Tsai CC, Chen LD, Chen HH, Wang WC. Therapeutic effect of gypenoside on chronic liver injury and fibrosis induced by CCl4 in rats. *American Journal of Chinese Medicine*. 2000;28(2):175-185.

Cui J, Eneroth P, Bruhn JG. *Gynostemma pentaphyllum*: identification of major saponin and differentiation from *Panax* species. *European Journal of Pharmaceutical Sciences*. 1999;8(3):187-191.

Francis G, Kerem Z, Makkar HP, Becker K. The biological action of saponins in animal systems: a review. *British Journal of Nutrition*. 2002;88(6):587-605.

Jellin JM, Gregory P, Batz F, Hitchens K, et al, eds. *Pharmacist's Letter/Prescriber's Letter. Natural Medicines Comprehensive Database, 3rd Edition*. Stockton CA: Therapeutic Research Facility, 2000.

la Cour B, Molgaard P, Yi Z. Traditional Chinese medicine in treatment of hyperlipidaemia. *Journal of Ethnopharmacology*. 1995;46(2):125-129.

Li L, Jiao L, Lau BH. Protective effect of gypenosides against oxidative stress in phagocytes, vascular endothelial cells and liver microsomes. *Cancer Biotherapy*. 1993;8(3):263-272.

Lin CC, Huang PC, Lin JM. Antioxidant and hepatoprotective effects of *Anoectochilus formosanus* and *Gynostemma pentaphyllum*. *American Journal of Chinese Medicine*. 2000;28(1):87-96.

Lin JM, Lin CC, Chiu HF, Yang JJ, Lee SG. Evaluation of the anti-inflammatory and liver-protective effects of *anoectochilus formosanus*, *ganoderma lucidum* and *gynostemma pentaphyllum* in rats. *American Journal of Chinese Medicine*. 1993;21(1):59-69.

Purmova J, Opletal L. Phytotherapeutic aspects of diseases of the cardiovascular system. 5. Saponins and possibilities of their use in prevention and therapy. [Article in Czech] Ceska Slov Farm. 1995;44(5):246-251.

Qi G, Zhang L, Li C. Influence of gypenoside on serum lipoprotein and atherosclerosis in hyperlipidaemia animals. [Article in Chinese] Zhongguo Zhong Yao Za Zhi. 1996;21(9):562-564 and inside back cover.

Qi G, Zhang L, Xie WL, Chen XY, Li JS. Protective effect of gypenosides on DNA and RNA of rat neurons in cerebral ischemia-reperfusion injury. Acta Pharmacol Sin. 2000;21(12):1193-1196.

Tan H, Liu ZL, Liu MJ. Antithrombotic effect of Gynostemma pentaphyllum. [Article in Chinese] Zhongguo Zhong Xi Yi Jie He Za Zhi 1993;13(5):278-280.

Tanner MA, Bu X, Steimle JA, Myers PR. The direct release of nitric oxide by gypenosides derived from the herb Gynostemma pentaphyllum. Nitric Oxide. 1999;3(5):359-365.

Wang C, Wang X, Li Y, Deng S, Jiang Y, Yue L. A preliminary observation of preventive and blocking effect of Gynostemma pentaphyllum (Thunb) Makino on esophageal cancer in rats. [Article in Chinese] Hua Xi Yi Ke Da Xue Xue Bao. 1995;26(4):430-432.

Wang QF, Chen JC, Hsieh SJ, Cheng CC, Hsu SL. Regulation of Bcl-2 family molecules and activation of caspase cascade involved in gypenosides-induced apoptosis in human hepatoma cells. Cancer Letters. 2002;183(2):169-178.

Zhang C, Yang X, Xu L. Immunomodulatory action of the total saponin of Gynostemma pentaphylla. [Article in Chinese] Zhong Xi Yi Jie He Za Zhi. 1990;10(2):96-70.

Zhou Z, Tang G, Zhong W. [Experimental study on the influence of Gynostemma pentaphyllum Makino upon point mutation of Ha-ras oncogene in blocking leukoplakia from canceration. [Article in Chinese] Zhonghua Kou Qiang Yi Xue Za Zhi. 2000;35(2):91-94.

Zhou Z, Wang Y, Zhou Y. The effect of Gynostemma pentaphyllum mak (GP) on carcinogenesis of the golden hamster cheek pouch induced by DMBA. [Article in Chinese] Zhonghua Kou Qiang Yi Xue Za Zhi. 1996;31(5):267-270.

Zhou Z, Wang Y, Zhou Y, Zhang S. Effect of gynostemma pentaphyllum mak on carcinomatous conversions of golden hamster cheek pouches induced by dimethylbenzanthracene: a histological study. Chinese Medical Journal (English Edition). 1998;111(9):847-850.

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**Note:** The above information is not intended to replace the advice of your physician, pharmacist, or other healthcare professional. It is not meant to indicate that the use of the product is safe, appropriate, or effective for you.

In general, herbal products are not subject to review or approval by the U.S. Food and Drug Administration (FDA). They are not required to be standardized, meaning that the amounts of active ingredients or contaminants they contain may vary between brands or between different batches of the same brand. Not all of the risks, side effects, or interactions associated with the use of herbal products are known because few reliable studies of their use in humans have been done.

This information is provided for your education only. Please share this information with your healthcare provider and be sure that you talk to your doctor and pharmacist about all the prescription and non-prescription medicines you take before you begin to use any herbal product.