

## **Artemesia**

Compiled by Melissa Kaplan  
[www.anapsid.org/cnd](http://www.anapsid.org/cnd)

### **Making and Taking *Artemesia* Tincture** by Lynn Harrington

*Artemesia annua* contains several volatile chemicals. This makes brewing the herb into a tea won't be effective as the volatiles will escape. Ways to take *A. annua*:

You can put a tiny amount of the herb into a capsule (including in a powdered *Artemesia* product, such as Allergy Research Group's Artemesinin).

You can make a tea by putting some herb into a cup, pour boiling water over it and cover the cup immediately; once it is cool enough to drink, drink it immediately.

Take a tiny amount of tincture of *Artemesia*.

#### **Tincture**

To make a tincture, you need to soak the herb in alcohol, pack a jar  $\frac{3}{4}$  full with the herb. Pour vodka or brandy to fill up the jar and cap the jar. Let it sit on a windowsill to steep. Store the finished tincture in a cool dark place, preferably in a brown bottle.

Take just a tiny bit of the tincture, 1-3 drops. More is not better, in this case, as there will be less chance of a relapse and debilitating CNS effects. Take daily for at a minimum 8, up to 16, weeks.

#### **Warnings**

If you are allergic to *Artemesia*, it could cause a heart attack if you take a higher dose.

When adding dried herb to capsules, add a very tiny amount.

When taking the tincture, you must start out with just ONE drop, gradually working up to no more than three drops. *Artemesia* is a peroxide, and peroxides are dangerous when mixed with alcohol. Also, *Artemesia* itself contains some neurotoxins; since alcohol crosses the blood-brain barrier, it may transport some of these neurotoxins across the BBB, too, thus increasing overall neurotoxicity.

For those who are very sensitive to drugs (herbs, in this instance, is considered to be a drug), a tea would be safer.

### **Qingcai Zhang MD: Treating Lyme Disease and Related Infections with Chinese Medicine**

[www.dr-zhang.com/LD](http://www.dr-zhang.com/LD)

Dr. Zhang formulated a capsule (*Artemesia Capsule*) which contains a combined total of 500 mg of *Artemesia annua* (in the form of 33 mg arteannuin), *Astragalus membranaceus* and *Codonopsis pilosula*. (Unfortunately, many people assumed that this capsule contained 500 mg

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The information here does not constitute a recommendation for self-treatment. Research widely and carefully, and discuss proposed treatment with your physicians.

of *Artemesia*, and so are taking too much when treating themselves with other *Artemesia* products.)

Besides *Artemesia*'s effect on malaria, *Babesia* and *Schistosoma*, *Artemesia* can reduce heart rate and lower blood pressure. *Artemesia* may also have various effects on the immune system, including increasing serum interferon levels, increasing phagocytic activity, increasing phagocytosis of phagocytes, lower serum IgG, and enlarge the spleen. It also suppresses humoral and cellular immunity, and can reduce antibody production cells and delay allergic reactions. In mice, it suppressed IL-2 production in the spleen.

### **Additional Information**

Many people who have read Dr. Zhang's information, or heard about it from others, unfortunately assumed that he uses *500 mg of Artemesia per capsule*. In fact, Dr. Zhang's *Artemesia Capsule* includes only 33 mg of the active ingredient arteannuin, to be taken three times a day, for a total of 99 mg/day.

*Artemesia* products vary, both in the actual plant-derived chemical ingredients it contains (i.e., artemesinin, arteannuin) and the concentration of those chemicals, and the presence of any other plant compounds. One cannot assume that the dosage for one form or product will be the same for any other form or product.

Just because *Artemesia* products or home-made teas, capsules or tinctures are made from the whole plant, one cannot assume it is safe. Aside from the documented medicinal effects, people may be allergic to, or hypersensitive to, any one of the chemical compounds in the plant. Care must be taken when first trying any plant-derived product, starting out at very small amounts and working up to the full dose. Remember that many plants have neurotoxic and other effects and one should not take them for prolonged periods of time, or in very high doses, especially without being medically monitored to assess effect on organ and immune function.

In terms of *Artemesia* itself, care must be taken both in the quantity taken per dose per day, as well as the length of time it is taken.

## JOURNAL ABSTRACTS

### **Selective activation of heparin cofactor II by a sulfated polysaccharide isolated from the leaves of *Artemisia princeps*.**

*Blood Coagul Fibrinolysis*. 1995 Oct;6(7):643-9.

Hayakawa Y, Hayashi T, Hayashi T, Niiya K, Sakuragawa N.

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While checking anticoagulant activities in crude fractions from Wakan-Yakus (traditional herbal drugs), we detected antithrombin activity in the polysaccharide fraction of the leaves of *Artemisia princeps* Pamp. A sulfated polysaccharide purified from the crude fractions by ion-exchange chromatography on DEAE-cellulose and gel filtration on Sepharose 6B potentiated the heparin cofactor II (HC II)-dependent antithrombin activity but not the antithrombin activity of antithrombin III (AT III). The polysaccharide enhanced the HC II-thrombin reaction more than 6000-fold. The apparent second-order rate constant of thrombin inhibition by HC II increased from  $3.8 \times 10^4$  (in the absence of the polysaccharide) to  $2.5 \times 10^8$  M<sup>-1</sup> min<sup>-1</sup> in the presence of 25-125 micrograms/ml of the polysaccharide. In human plasma, the polysaccharide accelerated the formation of thrombin-HC II complex. The stimulating effect on HC II-dependent antithrombin activity was almost totally abolished by treatment with chondroitinase AC I, heparinase or heparitinase, while chondroitinase ABC or chondrosaminoglycan AC II had little or no effect. These results suggest that the polysaccharide is a glycosaminoglycan-like material with properties that are quite distinct from heparin or dermatan sulfate.

### **Sulfated polysaccharide from the leaves of *Artemisia Princeps* activates heparin cofactor II independently of the Lys173 and Arg189 residues of heparin cofactor II.**

*Thromb Res*. 1997 Jul 1;87(1):105-12.

Hayashi T, Hayakawa Y, Hayashi T, Sasaki H, Sakuragawa N.

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A sulfated polysaccharide (AFE-HCD) purified from the leaves of *Artemisia princeps* Pamp selectively accelerated the rate of thrombin inhibition by heparin cofactor II (HCII). By using plasma derived HCII and bacterial expressed recombinant HCII molecules, the interaction between each HCII molecule and AFE-HCD was analyzed. AFE-HCD accelerated thrombin inhibition by plasma derived HCII or bacterial expressed wild type HCII to the same extent (IC<sub>50</sub>: 0.056 micrograms/ml for plasma derived HCII and 0.066 micrograms/ml for recombinant HCII under the experimental condition). The recombinant HCII (rHCII) molecule with Lys173-->Leu or Arg189-->His substitution, which is defective in interactions with heparin and dermatan sulfate, respectively, is activated by AFE-HCD to inhibit thrombin in a manner similar to wild type rHCII. These results suggested that activation of HCII was independent of its Lys173 or Arg189 residue. Although AFE-HCD is a selective activator of HCII like dermatan sulfate, the amino acid residue required for the activation of HCII was distinct from that of dermatan sulfate as well as heparin.

### **New constituents and antiplatelet aggregation and anti-HIV principles of *Artemisia capillaris***

*Bioorganic & Medicinal Chemistry*, Volume 9, Issue 1, January 2001, Pages 77-83

Tian-Shung Wu tswu@mail.ncku.edu.tw, Zhih-Jing Tsang, Pei-Lin Wu, Fu-Wen Lin, Chia-Yin Li, Che-Ming Teng and Kuo-Hsiung Lee

Five new constituents including a flavonoid, artemisidin A (1), and four coumarins, artemicapins A (2), B (3), C (4) and D (5), together with 70 known compounds (6–75), have been isolated and characterized from the aerial part of *Artemisia capillaris*. The structures of these compounds were determined from spectral analyses and/or chemical evidence. Among them, 15 compounds (3, 6, 10, 18, 30–32, 38–41, 44, 45, 51, and 55) showed antiplatelet aggregation activity and three compounds (10, 17, and 51) demonstrated significant activity against HIV replication in H9 lymphocytic cells.

### **Arteminin, a new coumarin from *Artemisia apiacea*.**

*Fitoterapia*. 2002 Jun;73(3):266-8.

Kim KS, Lee S, Shin JS, Shim SH, Kim BK.

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The isolation of 6,7-dimethoxycoumarin (1), 6-methoxy-7,8-methylenedioxy coumarin (2), 5,6-dimethoxy-7,8-methylenedioxy coumarin (3), 6-hydroxy-7,8-methylenedioxy coumarin (4) and 5-hydroxy-6,8-dimethoxycoumarin (arteminin) (5) is reported.

### **Researching the Use of Herbs**

More information on herbs and the making of tinctures can be found online in the following sites:

Henriette's Herbal Homepage  
[www.ibiblio.org/herbmed](http://www.ibiblio.org/herbmed)

Southwestern School of Botanical Medicine  
[www.swsbm.com/HOMEPAGE](http://www.swsbm.com/HOMEPAGE)