Artemisia Extract

Understanding Artemisia Annua Extract

- ✓ **Remedy based on the theory of Traditional Chinese Medicine (TCM)**
- ✓ **Daily dose of 6000 mg**
- ✓ **Helps prevent fever and chills**
- ✓ **Demonstrates anti-malarial activity**
- ✓ **Helps to dispel summer-heat**
- ✓ **Contains no alcohol, glycerin, corn, dairy, gluten, soy, wheat or yeast**

- ◊ ***Traditional benefits, properties and actions: analgesic, anti-asthmatic, antibacterial, antifungal, anti-inflammatory, antileishmanial, antimalarial, antioxidant, antipyretic, anti-schistosomal, antitumor, anti-ulcerogenic, antiviral and stomachic***

Alpha Science™ Laboratories

Your First Choice for Natural Medicine

Artemisia Annua Extract

MEDICINAL INGREDIENT PER 1 TABLESPOON (15 mL):

Artemisia annua (Qing Hao Herb Top/ *Herba Artemisiae Annuae*) .....3000 mg

NON-MEDICINAL INGREDIENTS:

Purified water, Citric acid, Potassium sorbate, Benzoic acid (buffered).

Artemisia Extract, commonly known as wormwood or sweet sagewort, has been used in Traditional Chinese Medicine (TCM) for fevers, inflammation, headaches, bleeding, and malaria. The large genus *Artemisia* L. is from the tribe Anthemideae of the Asteroideae (subfamily of Asteraceae). It comprises of medicinal plants that are currently the subject of phytochemical attention due to their biological and chemical diversity. *Artemisia* species, widespread throughout the world, are frequently used for the treatment of diseases such as malaria, hepatitis, cancer, inflammation, and infections by fungi, bacteria and viruses.

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The History of *Artemisia Annua*

Artemisia annua L. (Sweet wormwood or Annual wormwood) is the source of the Traditional Chinese Medicine (TCM) 'Qing Hao' that has been used for more than 2,000 years to alleviate fevers and chills. In TCM, it is also prescribed in combination with other herbs to treat fevers, jaundice, headache, dizziness, and nosebleeds (WHO, 2006; Abad et al., 2012).

Artemisia annua was first recorded in "52 Sickness Sides (Wu Shi Er Bing Fang)", a medical prescription excavated in the Mawangdui Han Tombs for the treatment of hemorrhoids. Application of *Artemisia annua* for the treatment of fever and chills related to malaria was first mentioned by Hong Ge (284–365 CE) in "Handbook of Prescriptions for Emergencies." As recorded in ancient medical textbooks, *Artemisia annua* was recommended for the treatment of intermittent fevers due to malaria, bone steaming and heat/fever arising from exhaustion, tuberculosis, lice, wounds, scabies, dysentery, acute convulsions related to pollution through contact with the dead, hemorrhoids, pain and swelling around the tooth, pus in the ear, rhinopolyp, and it also exerted eyesight improving, summer-heat relieving, hemostasis, and analgesic activities (Feng et al.,2020).

Artemisia annua is a large vigorous weedy annual shrub that often reaches more than 2 m tall, usually ribbed and single-stemmed with alternate branches, and the stem is covered with fine, silky grey-green hairs (Orwa et al., 2009).

The leaves are aromatic, alternate, deeply dissected, glabrous, and up to 12 cm long. In *Artemisia annua,* two types of trichomes are present: biseriate peltate glandular trichomes and filamentous trichomes composed of stalk cells and an elongated cell in a T-shape. The leaves contain both 10-celled biseriate trichomes and 5-cell filamentous trichomes which produce artemisinin (Orwa et al., 2009; Soetaert et al., 2013).

Artemisia Annua Today

Malaria is a worldwide disease caused by Plasmodium parasites. Artemisinins derived from the extracts of *Artemisia annua* are well established for the treatment of malaria, including highly drug-resistant strains. Since 2005, the WHO has advocated artemisinin-based combination therapies (ACTs) for treating *Plasmodium falciparum*. ACT has been adopted in 67 malariaendemic countries as the first-line treatment for all falciparum malaria. The non-malarial use of artemisinins is also being investigated in diseases like infections, cancers and inflammation. Artemisinins have been reported to possess potent inhibitory effects against viruses (e.g., Human cytomegalovirus), protozoa (e.g., *Toxoplasma gondii*), helminths (e.g., Schistosoma species and *Fasciola hepatica*), and fungi (e.g., *Cryptococcus neoformans*). (Krishna et al., 2008; Ho et al., 2014).

The emergence of multi-drug resistant parasites has increased the burden of malaria and threatens the use of established and cost-effective antimalarial agents. Artemisinin-based combination therapies (ACTs) have been introduced and widely deployed in malarial regions as a frontline treatment to aid rapid clearance of parasitemia and quick resolution of symptoms.

The potential development of resistance to artemisinins by *Plasmodium falciparum* threatens the usable lifespan of ACTs and therefore is a subject of close surveillance and extensive research (Cui & Su, 2009, O'Neill et al., 2010). Besides, the presence of artemisinin monotherapies and substandard ACTs on the market may also promote the development of resistance to this vital class of drugs (Cui & Su, 2009).

Note: Artemisinin-based combination therapies (ACTs) have been recommended by the World Health Organization (WHO) as a first-line treatment for malaria to prevent recurrence and development of resistance in malaria-causing parasites, whereas monotherapy is considered as an inappropriate treatment (Muangphrom et al., 2016).

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