

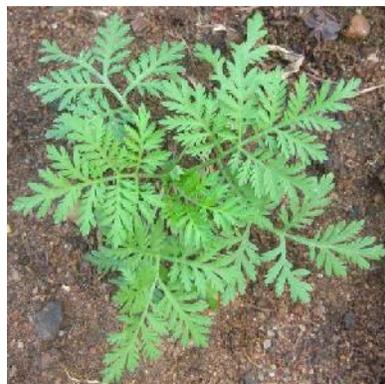
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Hair Tissue and Mineral Analysis | Nutritional, Herbal and Natural Medicine | Practitioner Education



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Sweet Annie - The Nobel Prize Winning Herb

Artemisia annua (*A. annua*) belongs to the family *Asteraceae*, a medicinal plant native to temperate Asia that has presently naturalised throughout the world. Other names for this plant include sweet Annie, sweet wormwood, and Qing Hao. It has been used in traditional Chinese medicine for over 2000 years and ranks highly among medicinal plants as having the capacity to offer protective activity against numerous conditions. The search for naturally occurring antioxidants to replace synthetic counterparts has drawn much attention to this versatile plant, whose high amounts of flavonoids and phenols may lend credence to its potent antioxidant capacity.

Scientific studies reveal that *A. annua* contains an extensive portfolio of bio-active compounds including sesquiterpenoids and polyphenols. Furthermore, it exhibits a wide range of pharmacological properties.

Clinical Update

Protective capacity of *Artemisia annua* as a potent antioxidant remedy against free radical damage

Free radicals initiate oxidative stress when they seek stability through electron pairing with biological macromolecules such as lipids, proteins, DNA, and cofactors of enzymes in healthy human cells. These activities cause lipid peroxidation as well as protein and DNA damage. Subsequently, these contribute to pathological disturbances such as cardiovascular disease, ageing and inflammatory diseases. In some cases, pathological processes disrupt protective mechanisms in the body, thereby natural antioxidants from plants may mitigate oxidative damage.

Nkachukwu and colleagues examined the phyto-protective potential of *A.annua* as a natural antioxidant. *A.annua* leaves were extracted with four solvents - absolute, ethanol, absolute methanol, 70% ethanol and 70% methanol. The obtained extracts were studied by five complementary in vitro antioxidant test systems using ascorbic acid (Vitamin C) and rutin as standard references.

Peroxidation of lipids has been reported to induce disturbance and alteration of biological membranes, which can lead to disease progression. *A. annua* leaf extract showed remarkable linoleic acid peroxidation inhibition activities after 360h of incubation. These values compare well with that of rutin used as a reference, and of *Moringa oleifera* and *Aloe barbadensis* leaves. This serves as possible evidence to the potency of *A. annua* in conferring protection to human cells against free-radical induced peroxidation of lipids.

The results of the study also showed that *A. annua* extracts were able to inhibit nitrite formation by directly competing with oxygen in the reaction with nitric oxide. This suggests that the plant could potentially counter excessive nitric oxide generation in the human body.

In conclusion, leaf extracts of *A. annua* exhibited a high level of antioxidant activity in all models studied. This highlights the potency of the plant as a natural source of antioxidants that can be utilised in the production of functional nutraceuticals.

Reference:

Peter Nkachukwu, Chukwurah, et al. "Protective capacity of *Artemisia annua* as a potent antioxidant remedy against free radical damage." *Asian Pacific Journal Of Tropical Biomedicine*,

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